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## EXECUTIVE SUMMARY

San Francisco Bay Area water, wastewater, flood protection and stormwater management agencies; cities and counties represented by the Association of Bay Area Governments (ABAG); and watershed management interests represented by the California Coastal Conservancy (CCC) and non-governmental environmental organizations signed a Letter of Mutual Understandings (LOMU) to develop an Integrated Regional Water Management Plan (IRWMP) for the San Francisco Bay Area.

The Bay Area IRWMP represents a significant accomplishment in regional water resources planning. It outlines the region's water resources management needs and objectives, and presents innovative strategies and a detailed implementation plan to achieve these objectives, contributing to sustainable water resources management in the Bay Area.

The overall objectives of the Bay Area IRWMP are to:

- 1) Foster coordination, collaboration and communication among Bay Area agencies responsible for water and habitat-related issues.
- 2) Achieve greater efficiencies and build public support for vital projects.
- 3) Improve regional competitiveness for project funding.

The IRWMP, and this Executive Summary, follow the Integrated Regional Management Grant Program Guidelines (Guidelines) jointly issued by the State Water Resources Control Board and Department of Water Resources on November 18, 2004. The sections included in the IRWMP, and summarized in this Executive Summary, are as follows:

**Section A: Regional Water Management Group.** This section describes the Bay Area regional water management group, including member agencies and organizations and their management responsibilities related to water.

**Section B: Region Description.** This section explains why the Bay Area is an appropriate area for integrated regional water management, and describes: internal boundaries within the region, major water-related infrastructure, and major land-use divisions; the quality and quantity of water resources within the region, including surface water, groundwater, reclaimed water, imported water, and desalted water; water supplies and demand for a 20-year planning horizon; important ecological processes and environmental resources; the social and cultural makeup of the regional community; important cultural or social values; and economic conditions and important economic trends.

**Section C: Objectives.** This section identifies the water resources management challenges facing the region, the common interests that are shared by all Bay Area water resources management entities, and the specific goals and objectives of the IRWMP.

**Section D: Water Management Strategies.** This section documents the range of water management strategies considered to meet the region's objectives.

**Section E: Integration.** This section presents the mix of water management strategies selected for inclusion in the Plan and discusses the added value and benefits associated with integrating these strategies.

**Section F: Regional Priorities.** This section presents short-term and long-term priorities for implementation of the Plan and discusses the process for modifying priorities in response to regional changes.



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**Section G: Implementation.** This section discusses the institutional structure responsible for plan implementation and presents specific actions, projects and studies, ongoing or planned, by which the Plan will be implemented, and identifies the agencies responsible for project implementation.

**Section H: Impacts and Benefits.** This section presents a screening-level discussion of the impacts and benefits from Plan implementation.

**Section I: Technical Analysis and Plan Performance.** This section presents the data, technical methods and analysis used in development of the Plan, and discusses performance measures and monitoring systems that will be used to gather performance data and the adaptive management process that will be used to make adjustments based on the performance.

**Section J: Data Management.** This section presents mechanisms by which data will be managed and disseminated to stakeholders and the public and discusses how data collection will support statewide data needs.

**Section K: Financing.** This section identifies beneficiaries of Plan implementation, and identifies the capital and operation and maintenance costs and potential funding sources for each of the projects included in the Plan.

**Section L: Statewide Priorities.** This section identifies the statewide priorities that will be met or contributed to by implementation of the Plan and specific projects.

**Section M: Relation to Local Planning.** This section discusses how the IRWM Plan relates to planning documents and programs established by local agencies, and demonstrates coordination with local land-use planning decision-makers.

**Section N: Stakeholder Involvement.** This section identifies stakeholders included in developing the Plan, the manner in which stakeholders were identified, how they participate in planning and implementation efforts, and how they can influence water management decisions.

**Section O: Coordination with State and Federal Agencies.** This section discusses State and federal agencies involved with strategies, actions, and projects, and identifies areas where State or other agencies may be able to assist in communication, cooperation, or implementation of Plan components or processes.

Each section of the IRWMP begins with a blue callout box highlighting the Guidelines for that section. These callout boxes are intended to focus the reader's attention on the main points of each section. In this Executive Summary, blue boxes are provided to highlight the key messages presented in each section.

Together, these sections establish an effective framework for ongoing water resources management in the Bay Area. This Bay Area IRWMP is dynamic, and continues to change and grow with time. The IRWMP is not intended to serve as a static plan, but as a process for ongoing regional planning. Regional goals, objectives, and priorities will evolve over time, and this Bay Area IRWMP, similarly, will adapt to meet the changing needs of the region. The Bay Area IRWMP, and its continued evolution, are illustrative of the San Francisco Bay Area's commitment to ongoing integrated regional water resources planning.



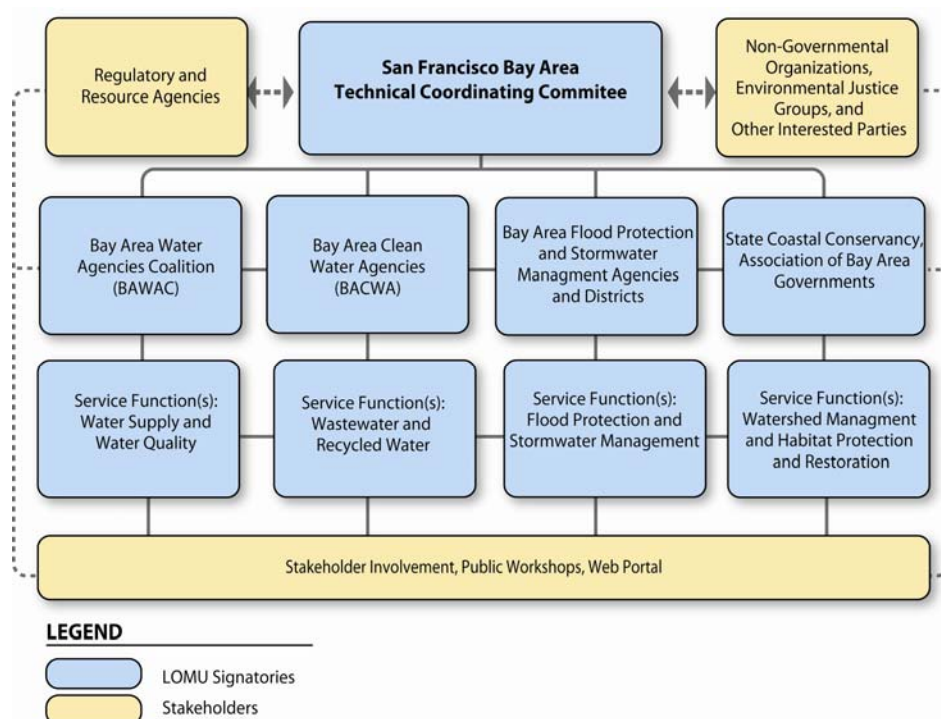
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## A Regional Water Management Group

**The entities responsible for developing this Plan represent *ALL* areas of water resources management and all *NINE* counties of the San Francisco Bay Area.**

Developing an Integrated Regional Water Management Plan that covers all aspects of water resources management across a geographic region as large as the Bay Area poses many institutional challenges. By signing a Letter of Mutual Understandings to develop the Bay Area IRWMP, LOMU signatories, in coordination with other interested stakeholders (see Figure ES-1), have overcome these challenges and achieved their stated goals:

- Facilitate regional cooperation in areas of water supply reliability, water recycling, desalination, water conservation, water quality improvements, stormwater capture and management, flood management, recreation and access, wetlands enhancement and creation, and environmental habitat protection and improvement; and
- Foster coordination, collaboration and communication amongst participating agencies to achieve greater efficiencies, enhance public services and build public support for vital plans and projects.
- To improve regional competitiveness for State and federal grant funding.



**Figure ES-1: Bay Area IRWMP Organizational Chart**



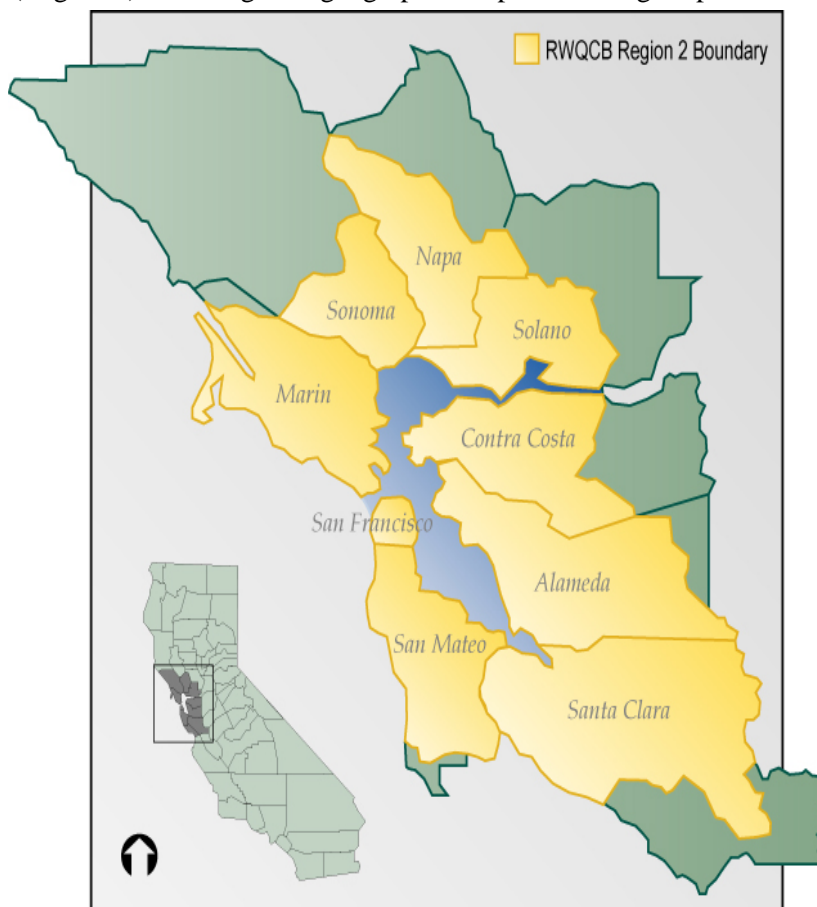
## B Region Description

### *About the Region:*

**The San Francisco Bay Area IRWMP Region is united by its distinctive identity, hydrologic and ecologic connections, national and international renown, and long history of regional planning.**

For purposes of this IRWMP, the Bay Area region is defined by the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (Region 2). Although the geographic scope of this region presents inherent complexities, several features make it an appropriate area for integrated regional water management:

- **Distinctive Identity.** Although parts of the Bay Area differ greatly from one another, they are tied together by their connections to the Bay, their interdependent economies, their shared natural resources, and their common cultural experiences. As a result, the Bay Area is an appropriate area for integrated regional water management.
- **Hydrologic and Ecologic Connection.** The Region 2 boundary is a physically based watershed boundary that includes lands that drain to common receiving waters (the Bay and the Ocean). Additionally, the Bay estuary and its supporting local watersheds host a distinct Bay Area natural environment and ecology that includes many important habitats for species of regional, as well as international, significance.
- **National and International Renown.** In addition to being the 5<sup>th</sup> largest metropolitan area in the United States, The Bay Area is recognized as a global center for innovation and technology.
- **History of Regional Planning.** Water management agencies throughout the Bay Area have a long history of regional cooperation and planning, including but



**Figure ES-2: Bay Area Region**

#### **Bay Area Fast Facts:**

- Includes **9** counties and **100** cities
- **5<sup>th</sup>** largest metropolitan area in the United States
- Home to **7.1 million** people – of which **44%** are minorities
- **24<sup>th</sup>** largest economy in the world with **3.5** million jobs



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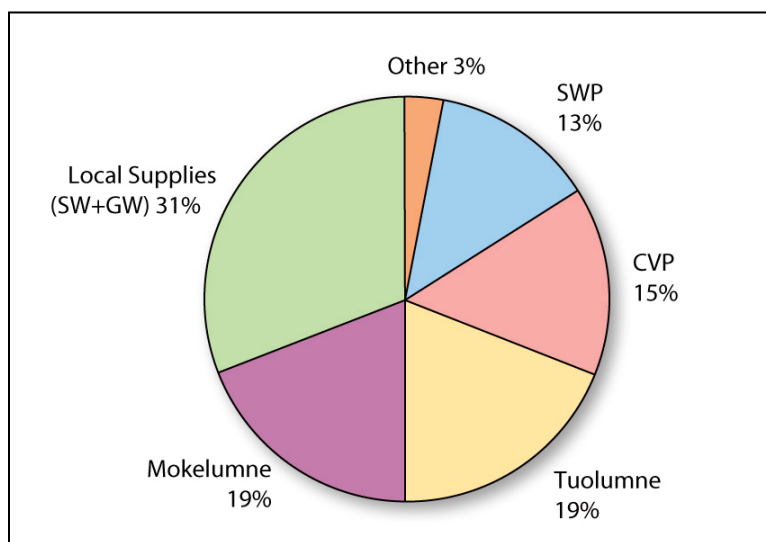
not limited to the Bay Area Water Agencies Coalition, Bay Area Clean Water Agencies, and Bay Area Stormwater Management Association.

***Bay Area Water Supplies:***

**High quality, reliable water supplies are a critical underpinning to the Bay Area's prosperity and continued leadership in economic development and environmental protection.**

Bay Area water agencies manage a diverse portfolio of water supplies to meet the needs of the region:

- **Local Supplies:** Local groundwater and surface water supplies
- **Sierra Nevada Supplies:** Tuolumne and Mokelumne River supplies
- **Delta Supplies:** State Water Project (SWP), Central Valley Project (CVP), other delta supplies
- **Other:** Desalination, recycled water, water transfers, and other supplies



**Figure ES-3: Bay Area Water Use by Supply Source**

The quality of water supplies used within the Bay Area region varies greatly by source. Mokelumne River and Tuolumne River surface water supplies are of very good quality, with low concentrations of total dissolved solids (TDS), total organic carbon (TOC), chloride, bromide, microbial contaminants, and other water quality parameters. These supplies generally do not exhibit the dramatic seasonal variability observed in Delta supplies. Delta supplies, conversely, exhibit elevated concentrations several water quality parameters including TDS, chloride, bromide, and TOC. Further, Delta supplies exhibit significant variability by location, season, and hydrologic year type. This variability can at times be so severe that some treatment plants must shut down, switch to other supplies sources, or blend with other supplies in order to address the poor water quality. TDS and hardness of groundwater supplies, similarly, vary significantly by basin. Bay Area water agencies are continually striving to address drinking water contaminants of concern (e.g., TDS, TOC, disinfection byproducts, emerging pollutants) through source water protection and advanced treatment strategies.

***Supply & Demand:***

**The Bay Area's existing annual supplies are inadequate to meet projected demands during prolonged drought periods. As the population continues to grow - the gap between available supplies and customer demand will widen in the coming decades unless agencies have the resources to fully implement necessary actions.**

Historically, conservation measures have proven to be effective at controlling Bay Area water use. As shown in Figure ES-4, overall water use has only increased 1% since 1986 – despite a 23% increase in population.

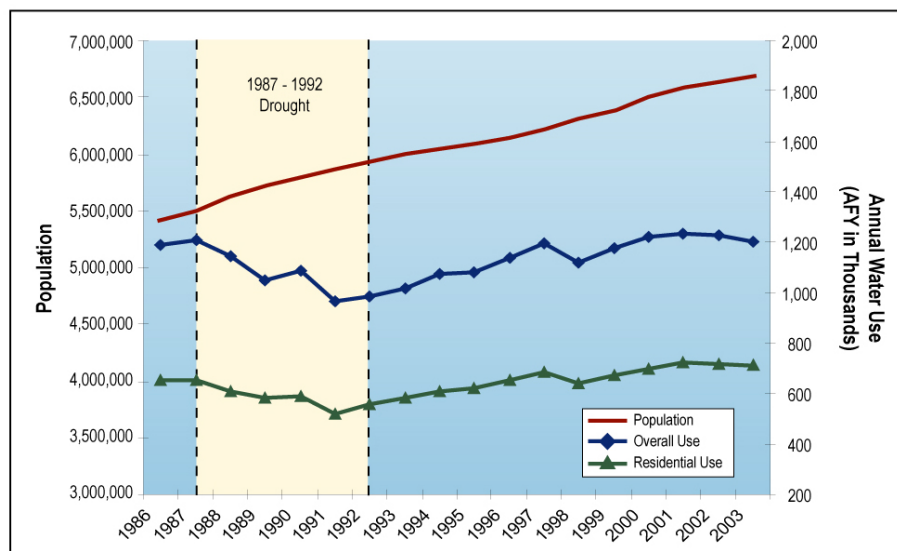




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However, Bay Area water agencies face a variety of challenges that threaten their ability to provide adequate supplies to meet the needs of their customers in the future:

- Threats to Baseline Supplies.** The reliability of existing Bay Area supplies is threatened by several different factors. *Delta supplies* are threatened by degrading water quality, risk of catastrophic failure, regulatory constraints on exports and local facilities operations. *Surface water supplies* are threatened by reductions in local yield and/or carryover storage due to seismic concerns and sedimentation and



**Figure ES-4: Historical Population and Water Use Trends**

- supply of water to meet regulatory requirements. *Groundwater supplies* are threatened by potential pollution and overdraft.
- Increasing Demands.** The Bay Area continues to be a popular place to live and work. ABAG predicts the population will increase to 8.2 million by 2020.
- Hydrologic Variations.** Many supplies are constrained in drought years. The severity and timing of dry year shortfalls differ greatly among the Bay Area water agencies due to the wide variation in supply sources, the types of use (residential, industrial, etc), and climate variations within the region.
- Infrastructure Vulnerability.** Water infrastructure in the Bay Area is vulnerable to effects from seismic activity, levee failures, sedimentation and system security breaches.

**Projected Bay Area supply reductions for future droughts:**

- 60% reduction in SWP supplies
- 25% reduction in CVP supplies
- 30% reduction in Tuolumne supplies
- 40% reduction in Mokelumne supplies
- 50% +/- reduction in local supplies

**Flooding:**

Many creeks in the Bay Area can flood within 30 to 60 minutes of a powerful storm burst – causing million of dollars in damages and catching businesses and residents off guard.

The Bay Area includes flat and highly developed valleys and bayside alluvial plains surrounded by rainfall-collecting steep terrain. This geography is conducive to sudden flooding (see Figure ES-5). Furthermore, the semi-arid climate, where the total annual rainfall is typically concentrated in a few short storms during the winter months, makes flood prediction uncertain.

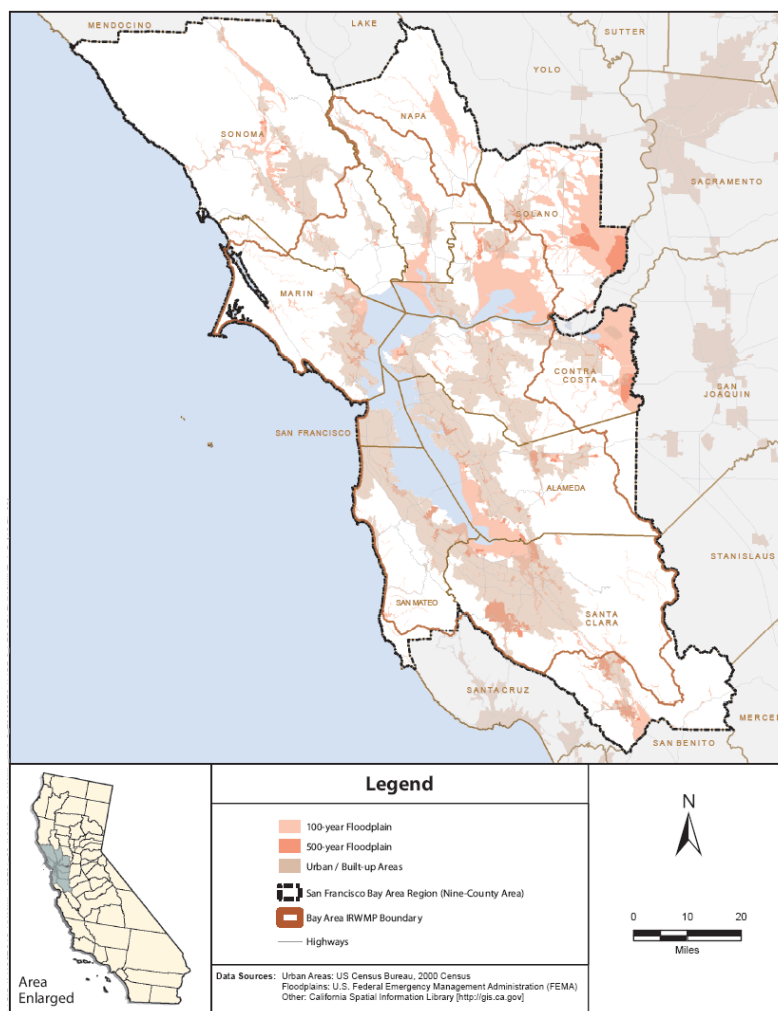


Because of the topography of alluvial plains, floodwaters escaping some stream channels may flow away from the flooding stream, crossing open areas or flowing through city streets until reaching an adjacent watercourse. This type of flooding compounds and exacerbates local flooding that occurs when storm drains and small channels become blocked or surcharged during storms.

The Bay Area's 14 largest local tributary watersheds encompass 2,477 square miles. Approximately 73 square miles (or 3% of the local watershed lands) are subject to flooding.

Flood protection agencies are faced with several challenges in their efforts to minimize these flood risks:

- Continued development in upland areas and near stream corridors
- Lack of clear jurisdictional responsibility for stream maintenance in many areas
- A costly and time-consuming permitting process for flood protection projects
- Control of invasive species
- Management of floodplains, riparian areas, and areas prone to tidal flooding in a region with very high land values and development pressures
- Need for more effective coordination among jurisdictions that share watershed resources



**Figure ES-5: Bay Area Locations within the 1% Flood Plain**



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***Environmental Resources:***

**Bay Area watersheds provide water supply, flood attenuation, groundwater recharge, water quality improvement, wildlife and aquatic habitats, erosion control, and recreation opportunities.**

Bay Area watershed habitats include rivers and streams, Montane and Valley foothill riparian areas, lakes and ponds, freshwater and tidal wetlands, and associated uplands habitats. Local watersheds and their associated habitats provide a myriad of water resource and ecological benefits to both humans and wildlife. Headwater tributaries and stream corridors provide and convey freshwater sources for humans and wildlife. Healthy floodplains detain stormflow volumes and reduce flow velocities, as well as provide diverse seasonal wetlands habitats. Wetlands vegetation protects and enhances water quality by removing toxins from influent water, and increases residence time which allows water to seep into the soil and enter underlying aquifers.

Bay Area watersheds are home to 105 wildlife species that have been designated by state and federal agencies as threatened or endangered. Bay Area habitats support special status species including, but not limited to: California red-legged frog, Giant garter snake, Chinook salmon, Coho salmon, Steelhead trout, Bald eagle, Sainson's hawk, San Joaquin kit fox, California tiger salamander, Western Pond Turtle, California freshwater shrimp, California clapper rail, Western snowy plover, California least tern, Salt-marsh common yellowthroat, Salt Marsh harvest mouse, Alameda Whipsnake and San Francisco Garter Snake..



Two-thirds of the State's salmon population pass through the Bay and Delta each year.

Bay Area agencies and organizations pursue a variety of different water resources management mandates: balancing the water needs of sensitive habitats with customer water demands, restoring watershed habitats and natural hydrologic functions, taking advantage of streams as urban and suburban amenities, and ensuring that natural resources and habitats are shielded from potential adverse impacts associated with land and water management. Specific challenges include:

- **Environmental Water Demands.** Environmental water demands encompass the demands on quantity, timing, duration and frequency of flows required by plants, wildlife and fisheries. Diversions of water from streams for other demands can limit survival rates for aquatic and riparian species.
- **Barriers to Recovery of Special Status Fish.** Several special status fish, including steelhead, coho salmon and Chinook salmon, were historically abundant in Bay Area streams. However, land use changes, channel alterations, and the construction of dams, dikes and weirs have severely limited modern fish populations.
- **Control of Invasive Species.** Bay Area riparian habitats are heavily impacted by invasion and spread of some non-native species of plants and animals. Invasive species can reduce soil retention, consume stream flows, reduce surface storage capacity, restrict flow capacity in creeks, and eliminate biodiversity.
- **Development in Flood Plains and Riparian Areas.** High land values and ongoing pressure for urban expansion tends to encourage development in flood plains, riparian areas, and tidal areas. This development generally results in loss of biological resources due to habitat fragmentation.



High land costs are a disincentive to retaining riparian setbacks where natural geomorphic and ecologic processes such as flooding and minor erosion could occur without affecting structures. High land costs also limit the potential to purchase title or easements that would preserve these areas for flooding and other natural stream functions. Additionally, downstream impacts of development in middle and upper watersheds include increased stream discharge, scour and deposition, head-cutting, and downstream flooding, with resulting loss of habitat, threats to public health and safety, and increased costs of flood management.

***Water Quality:***

**Protecting the health of the sensitive watershed is a significant challenge facing the Bay Area – over 160 water bodies within the region are considered to be impaired.**

The Regional Water Quality Control Board (RWQCB) has found that the San Francisco Bay and many of its tributaries are impaired, and is currently developing 20 TMDLs (Total Maximum Daily Loads) to address the 160+ impaired water bodies included on the Clean Water Act 303(d) list for the San Francisco Bay region (Table ES-1).

**Table ES-1: Bay Area TMDLs<sup>1</sup>**

<b>Waterbody</b>	<b>Pollutant(s)</b>
Guadalupe River	Mercury
Lagunitas Creek	Sediment, Pathogens <sup>2</sup>
Napa River	Sediment, Nutrients, Pathogens <sup>2</sup>
Pescadero/Butano Creeks	Sediment
San Francisco Bay	Copper, Mercury, Nickel, PCBs, Exotic Species
San Francisquito Creek	Sediment
Sonoma Creek	Sediment, Nutrients, Pathogens <sup>2</sup>
Tomaes Bay	Pathogens
Urban Creeks	Diazinon
Walker Creek	Mercury, Sediment <sup>2</sup>

TMDLs account for all pollutant sources, including discharges from wastewater treatment facilities; runoff from homes, agriculture, and streets or highways; “toxic hot spots”; and deposits from the air. The specific urban runoff BMPs and level of implementation that will be required in TMDLs will be determined through TMDL development. The scale of loading reductions anticipated suggests TMDLs will require significant increases in resources applied to urban runoff control and significant changes in scope and approach to urban runoff control programs.

<sup>1</sup> Total Maximum Daily Loads (TMDLs) Existing or Currently Being Developed, March 2003.  
<http://www.waterboards.ca.gov/funding/docs/tmdlolist.doc>. Accessed: August 25, 2006.

<sup>2</sup> San Francisco Bay RWQCB. Water Management Initiative Integrated Plan Chapter. October 2004. Page 1-6.



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***Demographics***

**Water resources management projects in disadvantaged and environmental justice communities can improve water quality, relieve flooding, and provide open space for local residents.**

With a population of 7.09 million, the San Francisco Bay metropolitan region is the second largest in California and the fifth largest in the nation. The San Francisco Bay region's population is made up of approximately 2.58 million households. The annual median household income (MHI) across census tracts in the region averages \$83,400.

An understanding of the location of disadvantaged and environmental justice communities can help the region to identify water resources management projects that improve water quality, open space and recreation opportunities, and flooding conditions within these neighborhoods. "Disadvantaged communities" are defined by the IRWMP Grant Program Guidelines as communities with an annual MHI less than 80% of the State MHI. Environmental justice communities are defined as low-income communities and communities of color that have been disproportionately impacted by programs, policies, or activities that have resulted in adverse health or environmental impacts.

Figure ES-6 shows census tracts defined as disadvantaged communities (less than 80% MHI) and census tracts with concentrations of 30% or greater minority populations (Asian, black or African American, or Hispanic origin). To begin to understand the environmental burden these communities may endure, the locations of wastewater treatment facilities and flood-prone areas are also presented in Figure ES-6. Water resources management projects in these neighborhoods should consider potential adverse impacts to these communities.



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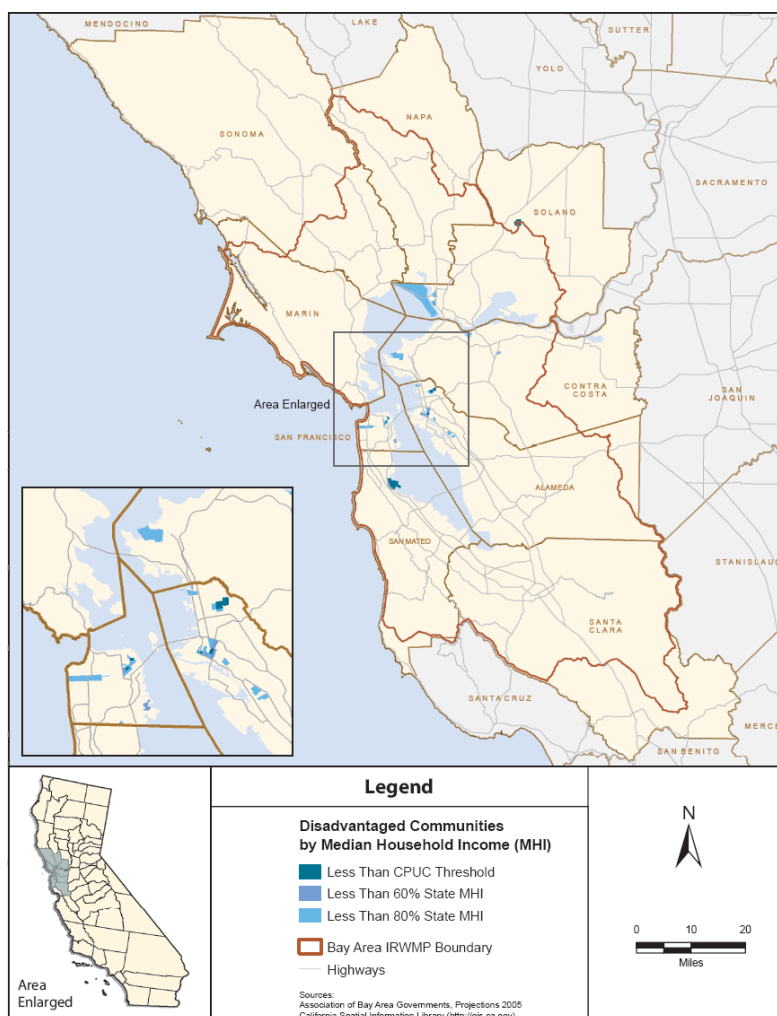


Figure ES-6: Disadvantaged Communities in the Bay Area

***Collaboration and Coordination:***

**Collaboration with resource agencies, additional funding mechanisms and improved interagency coordination are needed to effectively address the water resources management challenges facing the Bay Area.**

In addition to the specific water resources challenges described herein, Bay Area water resources management entities face other challenges relating to regulatory compliance, financing/funding, and interagency coordination:

- Regulations are becoming increasingly stringent in all areas of water management
- The permitting process is being delayed by severe funding and staffing limitations at resource protection agencies
- Competing costs and general lack of local funding impede agencies abilities to implement projects
- Water resources management issues do not usually follow jurisdictional boundaries



## C Objectives

**The Bay Area IRWMP objectives are born out of the common water resource management interests and challenges faced by the region. Collectively, these objectives work towards achieving the Plan's Vision:**

*Working together to enhance sustainable water resources management  
to support a high quality of life in the Bay Area*

Given the large geographic scope of the Bay Area region, the process for developing this IRWMP began with the development of baseline Functional Area Documents (FADs) that focused on the following water resources management areas:

- Water Supply and Water Quality (WS-WQ)
- Wastewater and Recycled Water (WW-RW)
- Flood Protection and Stormwater Management (FP-SM)
- Watershed Management, Habitat Protection and Restoration (WM-HP&R)

The process of identifying and developing regional goals and objectives that transcend these functional areas involved (1) compiling the issues, conflicts and challenges from each of the FADs and defining the common water resource management interests; (2) compiling the various goals and objectives identified in each of the FADs to address water management challenges and identifying overarching goals that transcend all function areas of water resource management and (3) revising overarching goals and objectives based on stakeholder input and feedback and developing a vision to guide implementation of the IRWMP.

### **Common Bay Area Water Resources Management Interests:**

- Protecting the Bay – Delta Watershed
- Managing Impacts from an Increasing Population.
- Addressing Aging Infrastructure Needs
- Maintaining a Vital Economy
- Protecting Health, Safety and Property
- Increasing Efficiencies and Value Added through Coordination and Collaboration

The overarching goals and objectives that address Bay Area water management challenges and reflect common interests are presented in Table ES-2.

**Table ES-2: Bay Area Regional Goals and Objectives**

Regional Goal	Objectives
<b>A. Contribute to the promotion of economic, social, and environmental sustainability</b>	<b>Contribute to:</b>
	▪ Avoiding, minimizing, and mitigating net impacts to environment
	▪ Maintaining and promoting economic and environmental sustainability through sound water resources management practices
	▪ Maximizing external support and partnerships
	▪ Maximizing ability to get outside funding
	▪ Maximizing economies of scale and governmental efficiencies
	▪ Providing trails and recreation opportunities
	▪ Protecting cultural resources
	▪ Increasing community outreach and education for watershed health
	▪ Maximizing community involvement and stewardship
	▪ Reducing energy use and/or use renewable resources where appropriate



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Regional Goal	Objectives
	<ul style="list-style-type: none"> <li>Minimizing solid waste generation/maximize reuse</li> <li>Engaging public agencies, businesses, and the public in stormwater pollution prevention and watershed management, including decision -making</li> <li>Achieving community awareness of local flood risks, including potential risks in areas protected by existing projects</li> <li>Considering and addressing disproportionate community impacts</li> <li>Balancing needs for all beneficial uses of water</li> <li>Securing funds to implement solutions</li> </ul>
B. Contribute to improved supply reliability	<b>Contribute to:</b> <ul style="list-style-type: none"> <li>Meeting future and dry year demands</li> <li>Maximizing water use efficiency</li> <li>Minimizing vulnerability of infrastructure to catastrophes and security breaches</li> <li>Maximizing control within the Bay Area region</li> <li>Preserving highest quality supplies for highest use</li> <li>Protecting against overdraft</li> <li>Providing for groundwater recharge while maintaining groundwater resources</li> <li>Increasing opportunities for recycled water use consistent with health and safety</li> <li>Maintaining a diverse portfolio of water supplies to maximize flexibility</li> <li>Securing funds to implement solutions</li> </ul>
C. Contribute to the protection and improvement of hydrologic function	<b>Contribute to:</b> <ul style="list-style-type: none"> <li>Protecting, restoring, and rehabilitating natural watershed processes</li> <li>Controlling excessive erosion and managing sedimentation</li> <li>Maintaining or improving in-stream flow conditions</li> <li>Improving floodplain connectivity</li> <li>Preserving land perviousness and infiltration capacity</li> <li>Securing funds to implement solutions</li> </ul>
D. Contribute to the protection and improvement of the quality of water resources	<b>Contribute to:</b> <ul style="list-style-type: none"> <li>Minimizing point and non-point source pollution</li> <li>Reducing salinity-related problems</li> <li>Reducing mass loading of pollutants to surface waters</li> <li>Minimizing taste and odor problems</li> <li>Preserving natural stream buffers and floodplains to improve filtration of point and non-point source pollutants</li> <li>Maintaining health of whole watershed, upland vegetation and land cover to reduce runoff quantity and improve runoff quality</li> <li>Protecting surface and groundwater resources from pollution and degradation</li> <li>Anticipating emerging contaminants</li> <li>Eliminating non-stormwater pollutant discharges to storm drains</li> <li>Reducing pollutants in runoff to the maximum extent practicable</li> <li>Periodically evaluating beneficial uses</li> </ul>





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Regional Goal	Objectives
	<ul style="list-style-type: none"> <li>Continuously improving stormwater pollution prevention methods</li> <li>Securing funds to implement solutions</li> </ul>
E. Contribute to the protection of public health, safety, and property	<b>Contribute to:</b> <ul style="list-style-type: none"> <li>Providing clean, safe, reliable drinking water</li> <li>Minimizing variability for treatment</li> <li>Advancing technology through feasibility studies/demonstrations</li> <li>Meeting promulgated and expected drinking water quality standards</li> <li>Managing floodplains to reduce flood damages to homes, businesses, schools, and transportation</li> <li>Minimizing health impacts associated with polluted waterways</li> <li>Achieving effective floodplain management by encouraging wise use and management of flood-prone areas</li> <li>Maintaining performance of flood protection and stormwater facilities</li> <li>Partnering with municipalities to prepare mitigation action plans that reduce flood risks to the community</li> <li>Coordinating resources and mutual aid between agencies to enhance agency effectiveness</li> <li>Securing funds to implement solutions</li> </ul>
F. Contribute to the creation, protection, enhancement, and maintenance of environmental resources and habitats	<b>Contribute to:</b> <ul style="list-style-type: none"> <li>Providing net benefits to environment</li> <li>Conserving and restoring habitat for species protection</li> <li>Acquiring, protecting and/or restoring wetlands, streams, and riparian areas</li> <li>Enhancing wildlife populations and biodiversity (species richness)</li> <li>Providing lifecycle support (shelter, reproduction, feeding)</li> <li>Protecting and recovering fisheries (natural habitat and harvesting)</li> <li>Protecting wildlife movement/wildlife corridors</li> <li>Managing pests and invasive species</li> <li>Recovering at-risk native and special status species</li> <li>Improving structural complexity (riparian and channel)</li> <li>Designing and constructing natural flood protection and stormwater facilities</li> <li>Securing funds to implement solutions</li> </ul>

## D Water Management Strategies

**Bay Area water resources management entities employ a wide variety of strategies – *above and beyond those presented in Proposition 50 Guidelines* - to meet the goals and objectives of this Plan.**

As shown in Table ES-3, several water resources management strategies contribute to the goals of the Bay Area IRWMP.



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**Table ES-3: Regional Goals Addressed by Water Management Strategies**

Water Management Strategies Considered in the Bay Area IRWMP		IRWMP Regional Goals					
		A. Contribute to Economic, Social, and Environmental Sustainability	B. Contribute to Protection and Improvement of Hydrologic Function	C. Contribute to Protection and Improvement of the Quality of Water Resources	D. Contribute to Protection of Public Health, Safety, and Property	E. Contribute to Protection, Enhancement, and Maintenance of Environmental Resources and Habitats	F. Contribute to Improved Water Supply Reliability
Required by Proposition 50 Guidelines	Ecosystem Restoration	✓	✓	✓		✓	
	Env. and Habitat Protection and Improvement	✓	✓	✓		✓	✓
	Water Supply Reliability	✓			✓		✓
	Flood Management	✓	✓		✓	✓	
	Groundwater Management	✓	✓	✓			✓
	Recreation and Public Access	✓					
	Storm Water Capture and Management	✓		✓	✓	✓	✓
	Water Conservation	✓					✓
	Water Quality Protection and Improvement	✓		✓	✓	✓	
	Water Recycling	✓					✓
	Wetlands Enhancement and Creation	✓	✓	✓		✓	✓
Other Proposition 50 Strategies	Conjunctive Use	✓		✓			✓
	Desalination	✓		✓			✓
	Imported Water	✓					✓
	Land Use Planning	✓	✓	✓		✓	✓
	NPS Pollution Control	✓		✓		✓	
	Surface Storage	✓					✓
	Watershed Planning	✓	✓	✓		✓	✓
	Water and Wastewater Treatment	✓		✓	✓		✓
	Water Transfers	✓					✓
Additional Strategies	Interties	✓			✓		✓
	Infrastructure Reliability	✓			✓		✓
	Regional Cooperation	✓	✓	✓	✓	✓	✓
	Education and Outreach	✓	✓	✓	✓	✓	
	Monitoring and Modeling	✓	✓	✓	✓	✓	✓
	Groundwater Banking	✓		✓			✓



## E Integration

**Bay Area water management entities seek to integrate multiple strategies to maximize benefits provided and realize organizational and financial efficiencies.**

While implementation of a single water management strategy can assist in achieving the region's water resources management goals, integrating multiple strategies may increase coordination and collaboration within a single agency and among different agencies, yielding benefits and efficiencies greater than those achieved through implementation of a single strategy alone. Specific examples of the value added by integrating water management strategies include:

- **Organizational Benefits.** Combining water management strategies can provide significant benefits, both *within* an individual organization and *among* multiple organizations collaborating on a given project or program. Increased support can be generated as proponents of different projects and aspects of water management are galvanized to accomplish a common goal. Further, bringing together multiple organizations to implement a common project encourages a broad-based support for project implementation that is difficult to achieve at a local level. Collaboration between agencies also eliminates redundancy and allows projects to be completed more quickly and effectively.
- **Geographic Benefits.** Multiple water management benefits can be achieved by grouping projects and programs with similar geographic and spatial considerations. Further, coordinated implementation of projects upstream and downstream within a watershed can provide economies of scale in project planning, by reducing redundancies. This can result in reduced project costs, while building cumulative benefits into the projects.
- **Synergistic Benefits.** Combining water management strategies can also result in synergistic benefits (i.e., benefits provided are greater than the sum of the parts). By combining multiple water management strategies within a single project, greater benefits can be achieved, often at less expense, than by implementing individual water management strategies independently.
- **Financial Efficiencies.** Integration of water management strategies across geographies, within project implementation, and through partnerships between agencies can result in significant financial efficiencies. Multi-benefit, collaborative projects can be widely supported, far reaching, and implemented better, faster, and cheaper than could be accomplished by a single agency focused on a single area of water management.



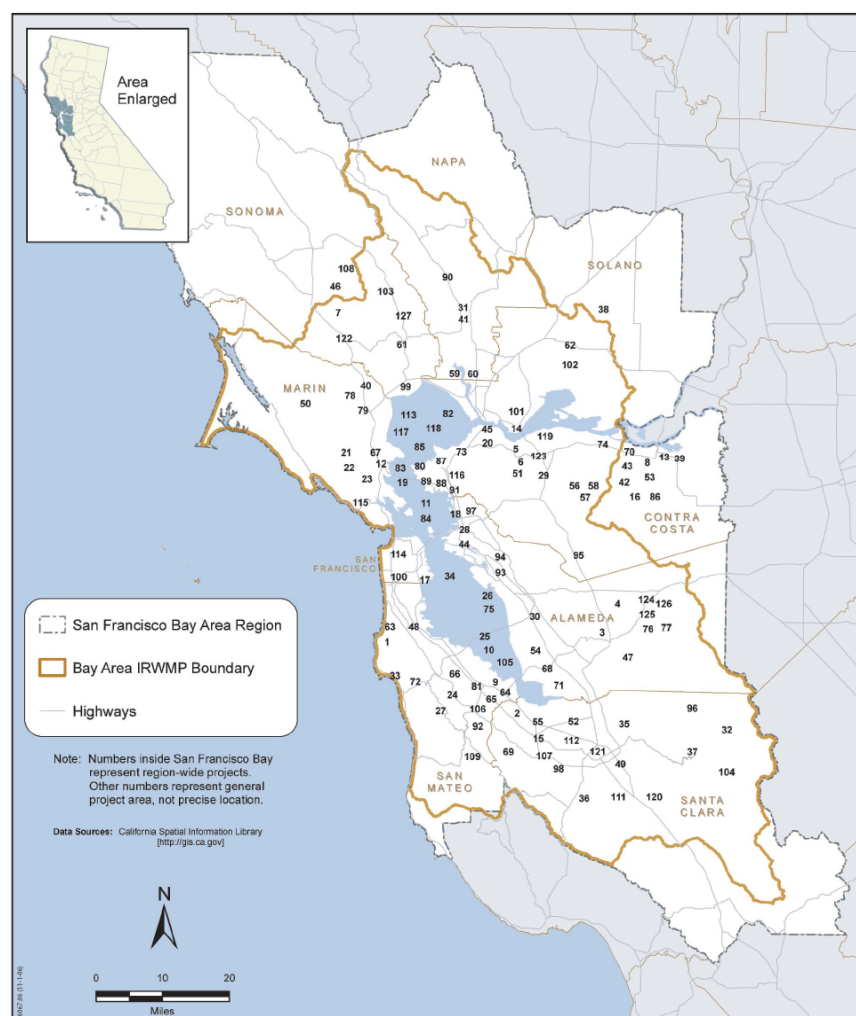
**Marsh restoration projects are great examples of integrating multiple strategies** (e.g., water quality improvement, wetlands enhancement, habitat protection, water recycling, and regional cooperation).



## F Regional Priorities

**Bay Area IRWMP water resource management projects were evaluated based on how well they addressed regional goals, Proposition 50 preferences, Statewide Priorities and other assessment criteria.**

Figure ES-7 presents the general locations of the priority projects identified for the Bay Area IRWMP. It is important to note that the entities that participated in the development of this Plan are themselves committed to a host of short-term and long-term priorities that follow the mandate of their organization. These priorities presented herein represent a regional focus, and are not necessarily the same as individual agency priorities. The few projects that are physically located outside of the region's boundaries have been included within this Plan because the primary beneficiaries of these projects are located within the Bay Area.



**Figure ES-7: Bay Area IRWMP Priority Projects<sup>3</sup>**

<sup>3</sup> For full project titles, please refer to Table ES-5.



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The process for identifying Bay Area IRWMP priorities involved the following:

1. **Screen Projects for Inclusion in the IRWMP.** This process involved screening projects included within the four FADs, as well as additional projects identified during the development of this Plan, to determine which projects should be advanced to the IRWMP. Screening criteria varied by FAD, but in general projects were advanced to the Plan if they:
  - Involve multiple agencies
  - Achieve stated water management goals and objectives
  - Provide multiple benefits
  - Are ready to proceed
2. **Assemble Projects into Cohorts.** Projects advanced to the IRWMP were divided into two cohorts: Cohort 1 projects are scheduled to have all applicable environmental documentation and permitting complete by 2010; Cohort 2 projects will have these activities completed by 2014.
3. **Establish Assessment Criteria and Evaluate Projects.** The assessment criteria and project evaluation results for the Bay Area IRWMP are summarized in Table ES-4 and Table ES-5, respectively.

**Table ES-4: Project Assessment Methodology**

Category	Criteria	Assessment Methodology
Bay Area IRWMP Regional Goals	Sustainability	<p><b>Full circle.</b> If the project fully addresses a regional goal (i.e., the regional goal coincides with the primary objective of the project) the project received a full circle for that goal. No project could receive more than one full circle in the regional goals portion of the assessment.</p> <p><b>Half circle.</b> If a project addresses multiple regional goals, the project received a full circle for the goal corresponding to its primary objective, and received half circles for the additional goals addressed as secondary objectives.</p> <p><b>Empty circle.</b> If a project indirectly addresses a regional goal (e.g., it allows another project to proceed which does address a regional goal), then the project received an empty circle for that goal.</p> <p><b>Blank.</b> If a project does not address a regional goal at all, the project received no symbol for that goal.</p>
	Supply Reliability	
	Hydrologic Function	
	Water Quality – Drinking Water	
	Water Quality – Receiving Water	
	Environmental Resources	
	Protect Public Health, Safety, Property	
Other Regional Assessment Criteria	Funding Match	<p><b>Full circle.</b> If a ten percent (or higher) funding match is available for the project, the project received a full circle.</p> <p><b>Blank.</b> If a ten percent (or higher) funding match is not available for the project, the project received a blank.</p>
	Regionalism	<p><b>Full circle.</b> If the project benefits at least: (1) half the geographic area of the region, (2) two major quadrants of the region, (3) two Bay Area counties, or (4) two major Bay Area watersheds, it received a full circle for regionalism.</p> <p><b>Half circle.</b> If the project benefits up to: (1) half the geographic area of the region, (2) two major quadrants of the region, (3) two Bay Area counties, or (4) two major Bay Area watersheds, it received a half circle for regionalism.</p> <p><b>Empty circle.</b> If the project benefits one full county or major watershed, it received an empty full circle for regionalism.</p> <p><b>Blank.</b> If the project benefits less than one full county or less than one major watershed, the project received no symbol for regionalism.</p>





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Category	Criteria	Assessment Methodology
	Partnerships	<p><b>Full circle.</b> If project involves three or more partners, and the partners include both governmental and non-governmental organizations, the project received a full circle for partnerships.</p> <p><b>Half circle.</b> If project involves three or more partners, the project received a half circle for partnerships.</p> <p><b>Empty circle.</b> If project involves two partners, the project received an empty circle for partnerships.</p> <p><b>Blank.</b> If only one entity is sponsoring the project, the project received no symbol for partnerships.</p>
	Meets Objectives of Multiple FADs	<p><b>Full circle.</b> If the project meets objectives of multiple FADs, it received a full circle.</p> <p><b>Blank.</b> If the project does not meet objectives of multiple FADs, it received a blank.</p>
Prop 50 Program Preferences	Integration	<p><b>Full circle.</b> If the project utilizes multiple water management strategies across three or four Functional Areas (FAs), it received a full circle for integration.</p> <p><b>Half circle.</b> If the project utilizes multiple water management strategies across two Functional Areas (FAs), it received a half circle for integration.</p> <p><b>Empty circle.</b> If the project utilizes multiple water management strategies within one FA, it received an empty circle for integration.</p> <p><b>Blank.</b> If the project utilizes a single water management strategy within one FA, it received a blank for integration.</p>
	Supply Reliability	<p><b>Full circle.</b> If the project fully addresses the Prop 50 program preference (i.e., the program preference coincides with the primary objective of the project) received a full circle for that goal.</p>
	Water Quality	<p><b>Half circle.</b> If a project addresses multiple Prop 50 program preferences, the project received a full circle for the Prop 50 program preference corresponding to its primary objective, and received half circles for the additional Prop 50 program preference addressed as secondary objectives.</p>
	Pollution/Habitat	<p><b>Empty circle.</b> If a project addresses the Prop 50 program preference as an incidental benefit (e.g., the program preference is not a goal of the project, though it may incidentally be addressed by the project, or the project allows another project which addresses the program preference to proceed), then the project received an empty circle for that program preference.</p>
	DAC Benefits	<p><b>Blank.</b> If a project does not address the Prop 50 program preference at all, the project received a blank for that Prop 50 program preference.</p>
Prop 50 Statewide Priorities	Reduce Conflict	<p><b>Full circle.</b> If the project fully addresses the Prop 50 statewide priority (i.e., the statewide priority coincides with the primary objective of the project) it received a full circle for that goal.</p> <p><b>Half circle.</b> If a project addresses multiple Prop 50 statewide priorities, it received a full circle for the Prop 50 statewide priority corresponding to its primary objective, and it received half circles for the additional Prop 50 statewide priority addressed as secondary objectives.</p> <p><b>Empty circle.</b> If a project indirectly addresses a Prop 50 statewide priority (e.g., it allows another project to proceed which does address a regional goal), then the project received an empty circle for that statewide priority.</p> <p><b>Blank.</b> If a project does not address any Prop 50 statewide priorities at all, the project received a blank for that Prop 50 statewide priority.</p>
	TMDL	
	WMI	
	NPS Pollution Control	
	Delta Water Quality	
	Task Forces	
	Environmental Justice	
	CALFED Goals	

Table ES-5: Project Assessment Results

	Projects	Bay Area IRWMP Regional Goals						Bay Area Regional Assessment Criteria					Prop 50 Program Preferences					Prop 50 Statewide Priorities							
		Sustain - ability	Supply Reliability	Hydrologic Function	Water Quality - Drinking Water	Water Quality - Receiving Water	Env. Resources	Public Health, Safety, Property	Funding Match	Regionalism	Partnerships	Meets Objectives of Multiple FADs	Integration	Supply Reliability	Water Quality	Pollution to Habitat	DAC Benefits	Reduce Conflict	TMDL	WMI	NPS Pollution Control	Bay/ Delta Water Quality	Task Forces	Env. Justice	CALFED Goals
	COHORT 1 PROJECTS																								
1	Adobe Bridge Culvert Removal Project (City of Pacifica)	○	•	○	•	•	●	◐	•	•	•	●	○	•	•	•	•	•	•	•	•	○	•	◐	
2	Adobe Creek Upper Reach 5 Restoration (SCVWD)	◐	•	◐	•	•	◐	●	●	•	◐	●	●	•	•	•	•	•	•	◐	•	•	●	•	●
3	Alameda County Partnership for Land Conservation and Stewardship (Alameda County RCD)	●	•	○	•	○	◐	•	●	○	◐	•	•	•	○	○	•	•	•	◐	○	○	○	•	◐
4	Alameda Creek Fishery Enhancement Project (SFPUC)	○	●	◐	•	•	◐	•	●	○	◐	●	◐	●	•	•	•	●	•	•	•	•	•	•	●
5	Alhambra Creek Restoration and Environmental Education Collaborative (ACREEC): John Swett Campus (Muir Heritage Land Trust)	●	•	○	•	○	◐	•	●	•	●	●	○	•	•	•	●	•	•	◐	○	○	•	●	●
6	Alhambra Valley Creek Coalition Restoration Project (Urban Creeks Council)	◐	•	◐	•	●	◐	◐	●	•	●	●	●	•	●	●	●	•	•	●	○	○	●	●	●
7	Annadel State Park Erosion Control: Geary Ranch Road to Trail Conversion (California State Parks)	○	•	•	•	◐	●	○	•	○	●	●	○	•	○	○	•	•	•	●	●	●	•	•	●
8	Antioch Recycled Water Implementation (DDSD)	◐	●	•	•	◐	○	○	●	○	◐	●	○	●	○	○	○	●	○	○	•	○	●	•	●
9	Bair Island Restoration and Management Plan (Don Edwards San Francisco Bay National Wildlife Refuge)	◐	•	◐	•	•	●	○	●	○	●	•	•	•	•	○	•	•	•	●	•	•	●	•	●
10	Bay Area Levee Certification (SCVWD)	○	•	•	○	○	•	●	●	●	◐	●	○	•	○	•	◐	•	•	•	•	•	●	◐	●
11	Bay Area Regional Water Conservation Program (SCVWD)	◐	●	•	○	○	•	•	●	●	◐	•	•	●	•	•	○	○	○	○	○	○	•	○	●
12	Bay Water Desalination Plant (MMWD)	•	●	•	•	•	•	○	●	○	○	•	•	●	•	•	•	●	○	○	•	●	●	•	●
13	Beaver Pond Habitat Enhancement Project at the Dow Wetland Preserve (Contra Costa RCD)	◐	•	•	•	◐	●	•	●	•	●	●	◐	•	○	●	•	•	•	◐	◐	○	•	•	●
14	Benicia Water Reuse Project (City of Benicia)	◐	●	•	•	◐	○	○	●	○	●	●	◐	●	○	○	•	○	○	○	•	○	●	•	●
15	Calabazas Creek, Miller Avenue to Wardell Road (SCVWD)	○	•	○	•	○	●	●	●	•	◐	●	○	•	○	•	•	•	•	○	•	•	◐	•	○
16	Canal Encasement Phases II and III (CCWD)	○	◐	○	●	●	○	◐	●	○	◐	●	●	●	●	•	○	●	•	•	●	●	●	•	●
17	Candlestick Point State Recreation Area Yosemite Slough Restoration Project (California State Parks)	◐	•	•	•	○	●	•	●	•	●	●	○	•	•	●	●	•	•	◐	○	○	•	●	●
18	Codornices Creek, Kains to San Pablo (Friends of Five Creeks)	•	•	◐	•	○	●	○	●	•	●	●	○	•	○	○	○	•	•	◐	○	○	•	○	●
19	Community Safe Drinking Water Project (Literacy for Environmental Justice)	◐	•	•	●	•	•	◐	•	•	○	•	•	•	●	•	●	•	•	•	•	•	•	●	•
20	ConocoPhillips High-Purity Recycled Water Project (EBMUD)	○	●	•	•	◐	○	○	●	○	○	●	○	●	○	○	○	●	○	○	•	○	●	•	●
21	Corte Madera Creek Watershed Infiltration and Storage Assessment	◐	•	●	•	○	•	◐	•	•	●	●	●	•	•	•	•	•	•	●	•	•	•	•	●



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	Projects	Bay Area IRWMP Regional Goals						Bay Area Regional Assessment Criteria					Prop 50 Program Preferences					Prop 50 Statewide Priorities								
		Sustain - ability	Supply Reliability	Hydrologic Function	Water Quality - Drinking Water	Water Quality - Receiving Water	Env. Resources	Public Health, Safety, Property	Funding Match	Regionalism	Partnerships	Meets Objectives of Multiple FADs	Integration	Supply Reliability	Water Quality	Pollution to Habitat	DAC Benefits	Reduce Conflict	TMDL	WMI	NPS Pollution Control	Bay/ Delta Water Quality	Task Forces	Env. Justice	CALFED Goals	
	(Friends of Corte Madera Creek Watershed)																									
22	Corte Madera Creek Watershed Models (Friends of Corte Madera Creek Watershed)	•	•	○	•	○	•	•	●	•	●	●	○	•	•	•	•	•	•	●	•	•	○	•	○	
23	Corte Madera Creek Watershed Plan (Friends of Corte Madera Creek Watershed)	●	•	○	•	•	○	•	●	•	●	●	○	•	•	•	•	◐	•	●	○	○	○	•	◐	
24	CreekWise Creek Care Education Program (San Mateo STOPPP)	●	•	○	•	○	○	•	●	◐	●	●	○	•	○	○	○	•	○	○	○	○	•	○	○	
25	Defining Summer Low Flow Channels (SCC)	○	•	◐	•	•	●	○	●	●	●	●	○	•	•	•	•	•	•	○	•	•	●	•	●	
26	Developing and Implementing Options for Mitigating Risks of Public Health Impacts of Eating Fish (Clean Estuary Partnership)	◐	•	•	•	◐	○	●	•	●	●	●	●	•	◐	●	●	•	◐	●	•	◐	•	●	○	
27	Development of Regional GIS for Watershed Planning (San Mateo C/CAG)	●	•	○	•	•	○	○	●	◐	●	●	○	•	•	•	•	•	•	●	•	•	•	•	•	
28	East Bayshore Recycled Water Project – Phase 1B (EBMUD)	◐	●	•	•	◐	○	○	●	○	◐	●	○	●	○	○	○	●	○	○	•	○	●	•	●	
29	EBMUD-CCWD Raw Water Intertie (CCWD)	○	●	•	○	○	•	◐	●	●	○	•	•	●	○	•	○	●	•	•	•	•	•	•	●	
30	EBMUD-SFPUC/Hayward Emergency Intertie (EBMUD)	○	●	•	○	○	•	◐	●	●	○	•	•	●	○	•	○	●	•	•	•	•	•	•	●	
31	Feasibility Study for Dry-Year Water Supply (City of Napa)	•	●	•	•	•	•	○	●	○	◐	•	•	●	•	•	•	•	•	•	•	•	•	•	○	
32	Fisheries and Aquatic Habitat Collaborative Effort (SCVWD)	◐	◐	○	•	○	●	•	●	○	●	●	◐	◐	○	•	•	●	•	●	•	•	●	•	●	
33	Groundwater Optimization Project (MWSD)	◐	●	•	•	•	•	○	●	•	○	●	○	●	•	•	•	•	•	○	•	•	•	•	○	
34	Groundwater Recharge Opportunities (Sonoma CWA)	◐	○	◐	◐	◐	•	●	●	●	◐	●	●	○	◐	○	•	•	○	○	◐	◐	◐	•	○	
35	Guadalupe River Watershed Habitat Enhancement (SCVWD)	•	•	○	•	•	●	•	●	•	•	●	○	•	•	•	•	•	◐	◐	•	◐	•	•	◐	
36	Guadalupe Watershed Modeling Towards Mercury Management to Achieve TMDL Goals (San Francisco Estuary Institute)	○	•	○	•	●	●	◐	•	●	●	●	◐	•	◐	●	•	•	●	●	●	●	•	•	●	
37	Infrastructure Reliability Improvements in Santa Clara County (SCVWD)	◐	●	•	◐	◐	•	◐	●	○	◐	•	•	●	○	•	○	•	•	•	•	•	•	•	○	
38	Intertie w/ NBA-Solano Project (Solano CWA)	○	●	•	◐	•	•	◐	●	◐	●	•	•	●	●	•	○	●	•	•	•	•	•	•	●	
39	Ironhouse Sanitary District Wastewater Conveyance to San Francisco Region (Ironhouse Sanitary District)	•	•	•	○	●	○	○	●	•	◐	•	•	○	●	○	▪	○	•	•	•	○	•	•	○	
40	Jack London Lake Restoration and Sedimentation Reduction (California State Parks)	◐	•	●	•	◐	◐	•	●	•	●	●	◐	•	○	◐	▪	•	○	●	◐	◐	•	•	●	
41	Jamieson Treatment Plant Improvements (City of Napa)	•	◐	•	●	●	•	◐	●	○	◐	•	•	◐	●	•	•	•	•	•	•	•	•	•	○	
42	Kirker Creek Watershed Greenway Park Plan (Contra Costa RCD)	●	•	○	•	•	◐	○	•	○	●	●	◐	•	•	○	○	•	•	◐	•	○	○	○	◐	
43	Kirker Creek Watershed Nursery (Contra Costa RCD)	●	•	•	•	•	◐	•	●	•	●	•	○	•	•	•	○	•	•	○	•	•	○	○	○	



	Projects	Bay Area IRWMP Regional Goals						Bay Area Regional Assessment Criteria					Prop 50 Program Preferences					Prop 50 Statewide Priorities							
		Sustain - ability	Supply Reliability	Hydrologic Function	Water Quality - Drinking Water	Water Quality - Receiving Water	Env. Resources	Public Health, Safety, Property	Funding Match	Regionalism	Partnerships	Meets Objectives of Multiple FADs	Integration	Supply Reliability	Water Quality	Pollution to Habitat	DAC Benefits	Reduce Conflict	TMDL	WMI	NPS Pollution Control	Bay/ Delta Water Quality	Task Forces	Env. Justice	CALFED Goals
44	Lake Merritt and Lake Merritt Channel Improvements (City of Oakland)	•	•	●	•	◐	◐	○	▪	○	•	●	○	•	●	◐	●	•	•	●	○	◐	•	●	●
45	LEAD at Crockett (EBMUD)	•	●	•	•	•	•	○	●	◐	◐	•	•	●	•	•	○	•	•	•	•	•	●	•	●
46	Ledson Marsh Restoration: Annadel State Park (California State Parks)	•	•	●	•	○	◐	○	•	○	◐	●	○	•	•	○	•	•	•	◐	•	•	○	•	◐
47	Livermore-Amador Valley Mocho Groundwater Demineralization Project (Zone 7)	○	◐	•	●	●	•	◐	●	○	○	●	○	●	●	•	•	○	•	•	•	•	●	•	○
48	Lomita Canal / Cupid Row Canal Upgrades (San Francisco International Airport)	◐	•	◐	•	◐	●	○	•	○	◐	●	●	•	○	●	•	•	•	●	●	●	•	•	○
49	Lower Silver Creek, Reaches 4-6 (SCVWD)	○	•	○	•	•	◐	●	●	•	●	●	◐	•	•	•	●	•	•	○	•	•	●	●	○
50	Marin County Benthic Macroinvertebrate Sampling Program (Marin County STOPPP)	○	•	○	•	●	○	•	●	○	◐	●	○	•	●	○	•	•	•	●	•	•	•	•	•
51	Martinez Adult Education Campus Creek Project Enhancement (Muir Heritage Land Trust)	○	•	◐	•	◐	◐	●	●	•	●	●	●	•	○	○	○	•	•	◐	◐	◐	•	○	◐
52	Milpitas Transit Area Recycled Water Project (City of San Jose)	◐	●	•	•	◐	◐	○	●	○	◐	●	◐	●	◐	◐	○	●	○	○	•	○	●	•	●
53	Mirant Cooling Recycled Water Project (DDSD)	◐	◐	○	•	○	●	○	●	○	◐	●	●	◐	○	○	•	●	○	○	•	○	●	•	●
54	Monitoring Well Construction and Water Quality Monitoring Program (ACWD)	○	◐	•	●	●	•	○	●	•	◐	●	○	◐	●	•	•	•	•	●	•	•	•	•	○
55	Mountain View / Moffett Area Water Recycling Project (City of Palo Alto/City of Mountain View)	◐	●	•	•	◐	○	○	●	○	○	●	○	●	○	○	○	○	○	○	•	○	●	•	●
56	Mt. Diablo Creek Watershed Coordinated Steelhead Passage Project (Natural Heritage Institute)	◐	•	•	•	•	●	•	●	•	●	●	○	•	•	•	•	•	•	○	•	•	•	•	●
57	Mt. Diablo State Park: Comprehensive Stock Pond Evaluation and Sedimentation Remediation (California State Parks)	◐	•	●	•	•	◐	•	●	•	●	●	◐	•	•	•	•	•	•	●	●	●	•	•	●
58	Mt. Diablo State Park: Mitchell Creek Riparian Restoration (California State Parks)	◐	•	●	•	•	◐	•	●	•	●	●	○	•	•	•	•	•	•	●	○	○	•	•	●
59	Napa Plant Site Restoration Project (CDFG)	○	•	○	•	○	●	○	•	○	●	●	○	•	○	•	•	•	•	◐	•	•	•	•	◐
60	Napa Salt Marsh Restoration Project (State Coastal Conservancy)	◐	○	◐	•	○	●	•	●	●	●	●	●	○	◐	◐	•	•	•	●	○	○	○	•	●
61	Nathanson Creek Preserve Restoration Project (Sonoma Ecology Center)	○	•	◐	•	◐	●	◐	•	•	●	●	○	•	○	○	•	•	●	●	○	◐	•	•	●
62	North Solano Groundwater Monitoring (Solano CWA)	◐	●	•	•	•	•	•	●	•	●	•	•	◐	•	•	•	○	•	•	•	•	•	•	○
63	Pacifica Recycled Water Project (North Coast County Water District)	◐	●	•	•	○	•	○	●	◐	◐	●	◐	●	○	•	•	○	•	•	•	•	●	•	•
64	Palo Alto Recycling Project (City of Palo Alto)	◐	●	•	•	◐	○	○	●	○	○	●	○	●	○	○	•	●	○	○	•	○	●	•	●



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	Projects	Bay Area IRWMP Regional Goals						Bay Area Regional Assessment Criteria					Prop 50 Program Preferences					Prop 50 Statewide Priorities								
		Sustain - ability	Supply Reliability	Hydrologic Function	Water Quality - Drinking Water	Water Quality - Receiving Water	Env. Resources	Public Health, Safety, Property	Funding Match	Regionalism	Partnerships	Meets Objectives of Multiple FADs	Integration	Supply Reliability	Water Quality	Pollution to Habitat	DAC Benefits	Reduce Conflict	TMDL	WMI	NPS Pollution Control	Bay/ Delta Water Quality	Task Forces	Env. Justice	CALFED Goals	
65	Palo Alto Regional Water Quality Control Plant Water Recycling Program - Phase 3 Expansion (City of Palo Alto)	◐	●	·	·	◐	○	○	●	◐	◐	●	◐	●	◐	◐	●	●	○	○	·	○	●	●	●	
66	PCBs Investigation at the Pulgas Creek Pump Station Watershed, San Carlos, California (San Mateo C/CAG)	○	·	·	·	●	◐	◐	●	●	◐	●	○	·	●	●	·	·	●	●	●	●	·	·	○	
67	Peacock Gap Recycled Water Extension (MMWD)	◐	●	·	·	◐	○	○	●	○	○	●	○	●	○	○	·	○	○	○	·	○	●	·	●	
68	Peralta Tyson Groundwater Treatment Facility (ACWD)	○	◐	·	●	●	·	◐	●	·	●	●	○	●	●	·	·	○	·	·	·	·	●	·	●	
69	Permanente Creek Flood Protection (SCVWD)	○	·	◐	·	○	◐	●	●	·	◐	●	●	·	○	·	·	·	·	◐	○	○	●	·	◐	
70	PG&E Contra Costa Power Plant #8 Recycled Cooling Water (DDSD)	◐	●	·	·	◐	◐	○	●	○	◐	●	◐	●	○	○	○	●	○	○	·	○	●	·	●	
71	Phase 2 – Niles Cone Groundwater Recharge and Fish Passage Program (ACWD)	◐	◐	◐	○	○	●	◐	●	·	◐	●	●	●	○	·	·	●	·	○	·	·	●	·	●	
72	Pilarcitos Creek Integrated Watershed Management Plan Development and Implementation (SFPUC)	●	◐	○	○	○	◐	○	·	●	●	●	●	○	○	○	·	●	·	●	○	○	○	·	◐	
73	Pinole Creek Restoration and Greenway Park (CCC FC&WCD)	◐	○	●	·	○	◐	○	●	○	◐	●	◐	○	·	○	◐	·	·	◐	○	○	◐	◐	◐	
74	Pittsburg Recycled Water Implementation (DDSD)	◐	●	·	·	◐	○	○	●	○	◐	●	○	●	○	○	○	●	○	○	·	○	●	·	●	
75	Protection from Tidal Flooding (City of Burlingame)	◐	·	○	·	○	○	●	·	●	◐	●	◐	·	○	○	◐	·	·	◐	·	○	●	◐	●	
76	R10-2 Arroyo de la Laguna (ADLL) Improvement Project 2 (Zone 7)	◐	·	◐	·	◐	◐	●	·	·	·	●	●	·	·	◐	·	·	○	◐	◐	◐	●	·	●	
77	R10-5 Arroyo de la Laguna Improvement Project 5 (Zone 7)	◐	·	◐	·	·	◐	●	·	·	○	●	●	·	·	·	·	·	○	·	·	●	·	●		
78	Recycled Water Conveyance Pipeline (Novato Sanitary District)	◐	●	·	·	◐	○	◐	●	○	·	●	○	●	○	○	·	○	○	○	·	○	●	·	●	
79	Recycled Water Program for North Marin WD & Novato Sanitary District – Phase 1 (North Marin Water District)	◐	●	·	·	◐	○	◐	●	○	○	●	○	●	○	○	·	○	○	○	·	○	●	·	●	
80	Reducing Women and Children's Exposure to Mercury in the Bay and Delta Region (Ma'at Youth Academy)	◐	·	·	·	◐	◐	●	·	●	●	●	·	·	◐	○	●	·	○	○	○	◐	·	●	◐	
81	Redwood City Recycled Water Project (City of Redwood City)	◐	●	·	·	◐	○	○	●	○	◐	●	○	●	○	○	·	●	○	○	·	○	●	·	●	
82	Regional Biosolids Project (Regional Biosolids JPA)	●	·	·	·	○	○	·	●	●	◐	·	·	·	○	·	·	○	·	·	·	·	·	·	·	
83	Regional BMPs, Field Manual and Training for Stream Maintenance Activities (Marin County STOPPP)	○	·	◐	·	○	○	●	·	●	◐	●	○	·	○	·	·	·	·	◐	·	·	●	·	◐	
84	Regional Desalination Feasibility Study (EBMUD)	·	●	·	◐	◐	·	○	●	●	◐	·	·	●	◐	·	·	·	·	·	·	·	●	·	●	
85	Regional Flood Agencies Forum (SCVWD)	●	·	○	·	·	◐	○	·	●	◐	●	◐	·	·	·	○	·	·	◐	·	·	◐	·	·	
86	Removal of NDMA, EDCs, and PPCPs in South Delta Water (CCWD)	◐	○	·	●	●	·	◐	●	●	◐	·	·	○	●	·	·	·	·	·	·	●	·	·	●	





	Projects	Bay Area IRWMP Regional Goals						Bay Area Regional Assessment Criteria					Prop 50 Program Preferences					Prop 50 Statewide Priorities									
		Sustain - ability	Supply Reliability	Hydrologic Function	Water Quality - Drinking Water	Water Quality - Receiving Water	Env. Resources	Public Health, Safety, Property	Funding Match	Regionalism	Partnerships	Meets Objectives of Multiple FADs	Integration	Supply Reliability	Water Quality	Pollution to Habitat	DAC Benefits	Reduce Conflict	TMDL	WMI	NPS Pollution Control	Bay/ Delta Water Quality	Task Forces	Env. Justice	CALFED Goals		
87	Rheem Creek Restoration and Watershed Council Project (Natural Heritage Institute)	◐	•	○	•	◐	●	◐	•	•	●	●	○	•	○	○	●	•	•	○	•	○	•	●	●		
88	Richmond Advanced Recycled Expansion (RARE) Water Project (EBMUD)	◐	●	•	•	◐	○	○	●	○	○	●	○	●	○	○	•	●	○	○	•	○	●	•	●		
89	Richmond Bayshore Stewards (The Watershed Project)	●	•	○	•	○	◐	•	•	•	●	●	○	•	•	●	●	•	•	○	○	○	•	●	◐		
90	Robert Louis Stevenson State Park Erosion Control: Table Rock Trail Re-route (California State Parks)	•	•	●	•	◐	◐	•	●	•	●	●	○	•	○	◐	•	•	◐	●	○	○	•	•	●		
91	Rollingwood Neighborhood Creek Restoration Project (Urban Creeks Council)	○	•	●	•	◐	○	◐	•	•	●	●	○	•	○	○	●	•	•	●	•	•	◐	●	●		
92	San Francisquito Creek Flood Damage Reduction and Ecosystem Restoration (San Francisquito Creek JPA)	○	•	◐	•	◐	◐	●	•	○	●	●	◐	•	○	○	◐	•	●	●	○	◐	●	◐	●		
93	San Leandro Tributaries at South Hills (City of Oakland)	○	•	•	•	○	●	○	•	•	•	●	○	•	○	○	•	•	•	◐	•	•	•	•	◐		
94	San Leandro Water Reclamation Facility Expansion Project (EBMUD)	◐	●	•	•	◐	○	○	●	○	◐	●	○	●	○	○	○	●	○	○	•	○	●	•	●		
95	San Ramon Valley Recycled Water Program - Phase 2 and Future Phases (DSRSD-EBMUD Recycled Water Authority)	◐	●	•	•	◐	○	○	●	○	◐	●	○	●	○	○	○	●	○	○	•	○	●	•	●		
96	Santa Clara Valley Water District Aquifer Storage and Recovery Project (SCVWD)	◐	●	◐	•	•	◐	○	●	◐	○	●	○	●	•	•	○	○	•	•	•	•	•	•	○		
97	Satellite Recycled Water Treatment Plant Project (EBMUD)	◐	●	•	◐	◐	○	○	●	•	○	●	○	●	○	○	•	●	○	○	•	○	●	•	●		
98	SBWR Recycled Water Phase 2 Extensions--Santa Clara (City of San Jose)	◐	●	•	•	◐	◐	○	●	○	◐	●	◐	●	◐	◐	○	●	○	○	•	○	●	•	●		
99	Sears Point Restoration Project (Sonoma Land Trust)	◐	•	◐	•	◐	●	◐	•	○	●	●	○	•	○	○	•	•	•	●	•	○	●	•	●		
100	SFPUC Groundwater Projects (SFPUC)	○	●	•	•	•	◐	•	●	●	◐	●	●	●	•	•	○	●	•	•	•	•	•	•	•		
101	Sky Valley-Sulphur Springs Watershed Management Plan (City of Benicia)	●	•	•	•	○	◐	○	•	•	•	•	○	•	○	•	•	•	•	●	•	•	•	•	◐		
102	Solano CWA Groundwater Banking/Conjunctive Use Program (Solano CWA)	◐	●	•	•	•	•	•	●	•	●	●	○	●	•	•	○	•	•	•	•	•	•	•	●		
103	Sonoma Valley Invasive Weed Control (Sonoma Land Trust)	○	•	○	•	•	●	○	●	•	•	●	○	•	•	•	•	•	•	•	•	•	◐	•	●		
104	South Bay Advanced Recycled Water Treatment Facility Project (SCVWD)	◐	◐	•	•	●	◐	◐	●	◐	◐	●	●	●	●	●	○	●	○	○	•	○	●	•	●		
105	South Bay Salt Pond Restoration Project & South San Francisco Bay Shoreline Study: Early Implementation Activities (SCC)	●	•	○	•	◐	●	◐	●	●	●	●	●	•	○	◐	•	•	•	●	●	●	●	•	●		
106	Stanford Central Energy Facility Cooling Tower Recycled Water System (Stanford University)	◐	●	•	•	◐	○	○	●	◐	•	●	○	●	○	○	○	●	○	○	•	○	●	•	●		
107	Stevens Creek Restoration at Blackberry Farm, Cupertino	•	•	◐	•	•	●	•	●	•	○	●	○	•	•	•	•	•	•	◐	•	•	◐	•	●		



	Projects	Bay Area IRWMP Regional Goals						Bay Area Regional Assessment Criteria					Prop 50 Program Preferences					Prop 50 Statewide Priorities									
		Sustain - ability	Supply Reliability	Hydrologic Function	Water Quality - Drinking Water	Water Quality - Receiving Water	Env. Resources	Public Health, Safety, Property	Funding Match	Regionalism	Partnerships	Meets Objectives of Multiple FADs	Integration	Supply Reliability	Water Quality	Pollution to Habitat	DAC Benefits	Reduce Conflict	TMDL	WMI	NPS Pollution Control	Bay/ Delta Water Quality	Task Forces	Env. Justice	CALFED Goals		
	(SCVWD)																										
108	Sugarloaf Ridge State Park Erosion Control: Goodspeed Trail Rehabilitation (California State Parks)	●	•	•	•	○	◐	•	●	•	●	●	○	•	◐	●	•	•	●	●	●	●	•	•	◐		
109	Sustainable Streets for Improved Stormwater Quality and Water Reuse (San Mateo C/CAG)	●	•	○	•	•	○	○	●	●	◐	●	○	•	○	○	○	•	○	◐	◐	○	•	○	○		
110	Thompson Creek Stream Stabilization (SCVWD)	•	•	○	•	•	◐	○	●	•	○	●	○	•	○	•	•	•	•	◐	•	•	○	•	◐		
111	Upper Guadalupe River Project (Reaches 6 and 12) (SCVWD)	◐	○	◐	•	○	◐	●	●	•	◐	●	●	○	○	○	•	•	◐	●	•	○	●	•	◐		
112	Urban Creek Trash Reduction Program (SCVWD)	○	•	•	•	●	◐	•	●	◐	○	●	○	•	◐	◐	○	•	•	◐	◐	◐	•	○	◐		
113	Watershed Habitat and Project Mapping Program (San Francisco Estuary Institute)	◐	•	•	•	•	●	•	•	●	●	●	○	•	•	•	•	•	•	●	•	•	•	•	○		
114	Westside Baseline and Harding Park/Lake Merced Projects (SFPUC)	◐	●	•	•	•	○	○	●	●	○	●	○	●	•	•	○	○	•	•	•	•	●	•	•		
115	Wetland and Creek Restoration at Big Lagoon, Muir Beach (National Parks Service-GGNRA)	○	•	◐	•	•	●	◐	●	●	◐	●	○	•	○	◐	•	•	•	●	○	○	◐	•	●		
116	Wildcat Creek Restoration (CCC FC&WCD)	◐	•	◐	•	○	●	◐	•	•	●	●	●	•	○	•	◐	•	•	◐	•	•	◐	◐	●		
	COHORT 2 PROJECTS																										
117	Accelerate Eradication of Invasive Plant Species (TBD)	◐	•	○	•	•	●	○	•	•	•	●	○	•	•	•	•	•	•	○	•	•	◐	•	◐		
118	Emergency Preparedness for Widespread and Tidal Flooding (TBD)	◐	•	•	•	•	•	●	•	•	•	•	•	•	•	•	•	•	•	•	•	●	•				
119	Lower Walnut Creek Restoration (CCC FC&WCD)	○	•	◐	•	○	◐	●	•	•	○	●	◐	•	○	•	•	•	•	◐	•	•	●	•	●		
120	Mid-Coyote (SCVWD)	○	•	○	•	○	◐	●	●	○	◐	●	○	•	○	•	●	•	•	◐	•	•	●	●	●		
121	North San José Intensification Extension (South Bay Water Recycling)	○	●	•	•	○	○	○	●	○	○	●	○	●	○	○	○	○	○	○	•	○	●	•	●		
122	Phase II Recycled Water Program – City of Petaluma (City of Petaluma)	○	●	•	•	◐	○	○	●	○	○	●	○	●	○	○	•	○	○	○	•	○	●	•	●		
123	Pleasant Hill, Zone 1 Recycled Water Project (CCCSD)	○	●	•	•	◐	○	○	●	○	◐	●	◐	●	○	○	○	●	○	○	•	○	●	•	●		
124	R3-2 Robertson Park Enhancement Project and Levee Construction (Zone 7)	◐	•	◐	•	○	◐	●	•	•	•	●	●	•	•	◐	•	•	•	●	○	○	●	•	○		
125	R3-3 Parks Floodplain Dedication and Levee Construction (Zone 7)	◐	•	◐	•	•	•	●	•	•	•	●	●	•	•	•	•	•	•	●	•	•	●	•	●		
126	R3-4 Holmes Street Sedimentation Basin and Granada/Murrieta Protection and Enhancement Project (Zone 7)	◐	•	◐	•	◐	◐	●	•	•	•	●	●	•	•	◐	•	•	•	●	◐	◐	●	•	●		
127	Sonoma Valley Recycled Water Project (Sonoma CWA)	◐	●	•	•	○	○	○	●	○	○	●	◐	●	○	○	•	○	○	○	•	○	●	•	●		



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## G Implementation

**During implementation of the Bay Area IRWMP, the successor to the Technical Coordinating Committee is envisioned as using an adaptive management process to ensure that the Plan is responsive to the needs of the region.**

The Bay Area IRWMP will be implemented through continued coordination and contribution towards regional goals through (1) implementation of agencies' programs and projects implementation, (2) implementation of the 116 high priority projects identified in this Plan to the extent that resources are available; and (3) on-going review by the successor to the Bay Area Technical Coordinating Committee (TCC).

The LOMU signatories are planning to adopt the Bay Area IRWMP by January 1, 2007. Following adoption, the Bay Area IRWMP will be implemented through execution of priority projects identified in this Plan by respective project proponents. Progress toward attaining the regional goals and objectives will be reviewed periodically. As a living document, information in the IRWMP will be updated as needed through an adaptive management framework. The steps for IRWMP implementation are described in further detail below. The level of effort in each area will depend on the amount of funding and resources available.

In developing this IRWMP, the Bay Area TCC (shown in Figure ES-1) demonstrated the ability to:

- work together and reach consensus on key decision points, despite the large geographic scope of the region, the diverse water resource management interests represented, and the short timeframe for plan development;
- foster coordination, collaboration and communication across a diverse array of water resources management entities throughout the region;
- provide a forum for involvement by resource agencies, environmental justice groups and other interested parties through targeted outreach efforts and public workshops throughout development of the Plan;
- develop and promote a unifying vision that reflects the water resources needs for the Bay Area region, and guide the development of goals and objectives, integrated water management strategies, and priorities for the Bay Area region;
- manage the entirety of the Plan development process including: contract compliance for the planning grant; management and oversight of a consultant team; development of a web-portal project collaboration tool; and the writing, editing, and production of the IRWMP.

Based on these accomplishments, the TCC will continue to serve as the decision making body until an improved institutional structure is developed and agreed to. The approach to implementing the IRWMP after the January 1, 2007 adoption includes the following:

1. Continue to follow the LOMU for coordination and collaboration on implementation issues for the Bay Area IRWMP – with the routine inclusion of resource and regulatory agencies and non-governmental organizations (NGOs) in deliberations – in addition to completion of future work.
2. Reconstitute the TCC as the San Francisco Bay Area Integrated Regional Water Management Plan Coordinating Committee (CC) as early as January 2007 after the IRWMP is adopted.
3. The CC will be comprised of two or three representatives appointed by each of the service function technical coordinating committees shown in Figure ES-1.
4. Non-public agency participants in the IRWMP will serve in an advisory role to the CC.



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5. CC members will actively solicit input from interested stakeholders and the public. Resource and regulatory agencies, NGOs and other interested stakeholders will be invited to participate in monthly meetings with the CC.
6. The CC will define the process of implementation where coordination and collaboration are needed, including IRWMP performance tracking, monitoring and updating, and other mutually agreeable implementation activities. The CC will not be responsible for carrying out individual projects or programs in the IRWMP.
7. Each service function technical coordinating committee will update goals, objectives, and/or information on projects within its functional area as described in the IRWMP, as needed and subject to available funding.
8. The CC will, in consultation with resource and regulatory agencies and NGOs, compile the implementation priorities submitted by each functional area, develop and update overall regional implementation criteria and prioritized project lists that will be most eligible and competitive for federal and state grant funding.
9. The CC will, in consultation with resource and regulatory agencies and non-governmental organizations, periodically review the ongoing institutional structure and discuss whether improvements are needed and propose options for improvements to best serve IRWMP implementation needs effectively and meet the needs of the participating organizations. The first review will be conducted not later than March 31, 2007.

Potential near- and long-term institutional structure functions that will be undertaken by the existing IRWMP TCC and the formal CC entity during implementation of this Plan are described in Table ES-6.

**Table ES-6: Potential Institutional Structure Functions During IRWMP Implementation <sup>a</sup>**

Structure		Potential Functions
NEAR-TERM PERIOD	Bay Area IRWMP CC <sup>b</sup>	<ul style="list-style-type: none"> <li>▪ Provide decision-making authority for further development and/or implementation of the Plan.</li> <li>▪ Foster partnerships and facilitate participation by a broad range of water resource management stakeholders, including environmental justice groups, resource agencies, public agencies, environmental groups, and the general public.</li> <li>▪ Provide a regional forum for cross-jurisdictional coordination.</li> <li>▪ Oversee continued outreach and data dissemination to stakeholders.</li> <li>▪ Oversee plan implementation and evaluate cumulative Plan contributions toward achievement of regional goals.</li> <li>▪ Periodically review and propose adjustments to regional goals and priorities.</li> <li>▪ Propose alterations to project sequencing and Plan implementation based on performance data collected.</li> <li>▪ Seek funding to support activities.</li> <li>▪ Periodically review effectiveness of on-going organization</li> </ul>
	Functional Area TCC	<ul style="list-style-type: none"> <li>▪ Collect and compile project status and performance information on an annual basis</li> <li>▪ Assess functional area performance in meeting goals and objectives</li> <li>▪ Prepare annual reports on progress and submit to Bay Area TCC</li> <li>▪ Adjust functional area priorities as needed</li> </ul>
	Project Proponents	<ul style="list-style-type: none"> <li>▪ Ensure implementation of projects and compliance with regulatory and statutory requirements</li> <li>▪ Prepare quarterly reports on project performance and submit to Functional Area TCC.</li> </ul>



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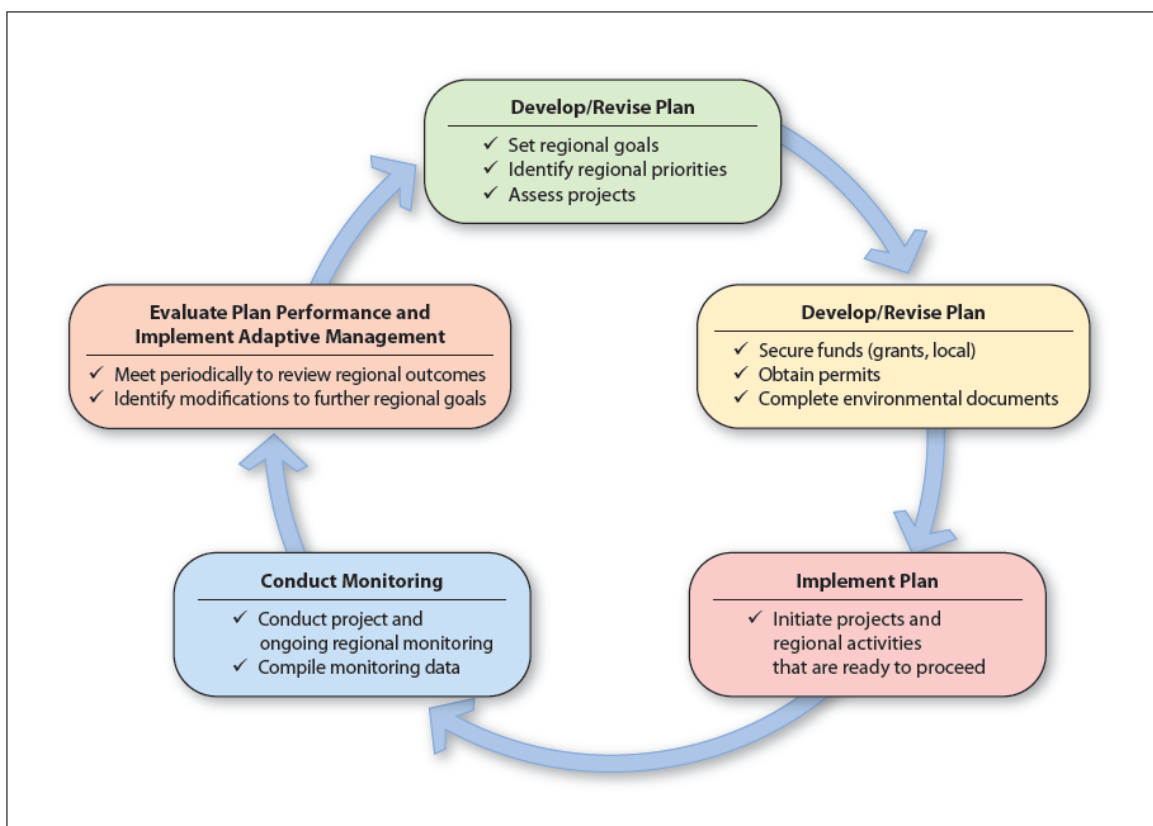
Structure		Potential Functions
LONG TERM	Formal Entity <sup>c</sup>	<ul style="list-style-type: none"> <li>Address decision-making authority for further development and/or implementation of the Plan.</li> <li>Foster partnerships and facilitate participation by a broad range of water resource management stakeholders, including environmental justice groups, resource agencies, public agencies, environmental groups, and the general public.</li> <li>Provide a regional forum for cross-jurisdictional coordination.</li> <li>Oversee continued outreach and data dissemination to stakeholders.</li> <li>Oversee plan implementation and evaluate cumulative Plan contributions toward achievement of regional goals.</li> <li>Periodically review and propose adjustments to regional goals and priorities.</li> <li>Propose alterations to project sequencing and Plan implementation based on performance data collected.</li> <li>Act on and/or adopt any proposed IRWMP changes or adjustments.</li> <li>Act on and/or adopt proposed adjustments to project sequencing and Plan implementation based on performance data collected.</li> <li>Manage preparation of the Bay Area Proposition 50 Chapter 8 implementation grant applications.</li> <li>Administer distribution of State funding to regional projects.</li> </ul>
	Project Proponents	<ul style="list-style-type: none"> <li>Ensure implementation of projects and compliance with regulatory and statutory requirements</li> <li>Prepare quarterly reports on project performance and submit to Functional Area TCC.</li> </ul>

- Functions assume adequate funding and resources are available.
- In consultation with stakeholders including resource and regulatory agencies and NGOs.
- Same as above.

To the extent allowable under State IRWM guidelines and criteria, a new project submitted after adoption of the Plan will be considered by the appropriate functional area(s) to evaluate whether that project should be forwarded to the IRWMP CC as a high priority project to consider when the next available funding proposal is developed. The schedule and process for each functional area may vary.

Recognizing that goals, objectives, and regional priorities evolve over time, the TCC will review this IRWMP periodically, depending on changing conditions and availability of funds to update information presented in the Plan, and will make adjustments as necessary to respond to changes throughout the region. This process of continual review and update, as illustrated in Figure ES-8, will optimize the effectiveness of IRWMP implementation.





**Figure ES-8: Bay Area IRWMP Implementation and Performance Assessment**

## H Impacts and Benefits

**The projects included within the Bay Area IRWMP provide multiple benefits.**

This IRWMP consists of a planning study and basic data compilation that would not result in the disturbance of any environmental resource. These activities are exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines §15262 and §15306. As such, programmatic environmental analysis under CEQA is not required. Furthermore, implementation of each short term priority project included in the IRWMP will be the responsibility of the project proponent and any applicable project partners. If implementing a project, project proponents bear responsibility for ensuring all regulatory requirements for the project are met.

Table ES-7 presents a screening level assessment of benefits and impacts that are typically associated with the various water management strategies included in this IRWMP.



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**Table ES-7: Typical Benefits and Impacts by Water Management Strategy**

Water Management Strategy	Typical Benefits	Typical Impacts
<b>Ecosystem Restoration</b>	<ul style="list-style-type: none"> <li>- Protection and enhancement of physical and biological processes</li> <li>- Increased critical habitat</li> <li>- Reduced flooding</li> <li>- Improved Water Quality</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Changes in local species composition and diversity</li> </ul>
<b>Env. and Habitat Protection and Improvement</b>	<ul style="list-style-type: none"> <li>- Restoration of hydrologic and geomorphic function</li> <li>- Addition of cover, nesting and forage areas</li> <li>- Improved access to steelhead spawning and rearing habitats and improved mobility.</li> <li>- Improved Water Quality</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Changes in or loss of sensitive habitat areas</li> <li>- Changes to the hydrologic makeup of site</li> <li>- Effects on land use planning and land values</li> </ul>
<b>Water Supply Reliability</b>	<ul style="list-style-type: none"> <li>- Reliable municipal and domestic water supplies</li> <li>- Reliable industrial supplies</li> <li>- Protection of watershed headlands</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Changes to visual quality adjacent to above-ground infrastructure</li> <li>- Loss or disturbance of biological resources</li> <li>- Potential growth-inducing effects</li> </ul>
<b>Flood Management</b>	<ul style="list-style-type: none"> <li>- Protection of public safety and property</li> <li>- Habitat and groundwater recharge benefits</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Changes in the frequency, duration and magnitude of storm flows and flooding</li> <li>- Water quality and hydrology impacts</li> </ul>
<b>Groundwater Management</b>	<ul style="list-style-type: none"> <li>- Supply reliability</li> <li>- Protection against overdraft</li> <li>- Potential for new habitat areas</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Inundation of potential habitat areas</li> </ul>
<b>Recreation and Public Access</b>	<ul style="list-style-type: none"> <li>- Recreation opportunities</li> <li>- Education opportunities</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Potential impacts to water quality and natural resources</li> </ul>
<b>Storm Water Capture and Management</b>	<ul style="list-style-type: none"> <li>- Reduction of downstream flooding impacts</li> <li>- Water supply, water quality, ecosystem restoration, recreation and public health benefits</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Groundwater contamination</li> </ul>
<b>Water Conservation</b>	<ul style="list-style-type: none"> <li>- Supply reliability without construction-related impacts</li> <li>- Reduced demands on imported water supplies</li> </ul>	<ul style="list-style-type: none"> <li>- Growth-inducing effects</li> </ul>
<b>Water Quality Protection and Improvement</b>	<ul style="list-style-type: none"> <li>- Reduced pollutant loading</li> <li>- Improved drinking water quality</li> <li>- Improved well-being of terrestrial and aquatic species</li> <li>- Reduced public health hazard</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Brine disposal impacts from treatment processes</li> <li>- Disturbance of sensitive species during restoration</li> </ul>
<b>Water Recycling</b>	<ul style="list-style-type: none"> <li>- Improved water supply reliability</li> <li>- Drought-proof supply</li> <li>- Preservation of potable supplies for drinking water</li> <li>- Reduced dependence on imported supplies</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Water quality impacts from nutrient and salinity loading and emerging contaminants</li> <li>- Increased energy usage and costs from treatment,</li> <li>- Potential growth-inducing impacts</li> </ul>



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Water Management Strategy	Typical Benefits	Typical Impacts
<b>Wetlands Enhancement and Creation</b>	<ul style="list-style-type: none"> <li>- Improved nesting, foraging and breeding grounds for waterfowl, fisheries and small mammals</li> <li>- Preservation of rare and endangered species and environmental habitat</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Changes in species distribution</li> </ul>
<b>Conjunctive Use</b>	<ul style="list-style-type: none"> <li>- Improved water supply reliability</li> <li>- Increased flexibility</li> <li>- Protection against overdraft and seawater intrusion</li> <li>- Reduced dependence on imported supplies during dry periods</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Increased energy usage and costs from pumping</li> <li>- Potential growth-inducing impacts</li> </ul>
<b>Desalination</b>	<ul style="list-style-type: none"> <li>- New potable water supply</li> <li>- High quality, drought proof supply</li> <li>- Reduced dependence on imported supplies.</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Water quality impacts from brine disposal</li> <li>- Increased energy usage and costs from treatment,</li> <li>- Potential growth-inducing impacts</li> </ul>
<b>Imported Water</b>	<ul style="list-style-type: none"> <li>- Improved water supply reliability</li> <li>- Improved water quality</li> <li>- Reduced treatment costs and public health risks from disinfection byproducts</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Potential impacts to natural stream flows and habitat associated with construction of conveyance facilities</li> </ul>
<b>Land Use Planning</b>	<ul style="list-style-type: none"> <li>- Improved coordination and collaboration</li> <li>- Protection of sensitive habitats</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> </ul>
<b>NPS Pollution Control</b>	<ul style="list-style-type: none"> <li>- Improved health of water bodies and wildlife dependant upon those water bodies</li> <li>- Improved coordination and collaboration</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Reduction in developable land</li> </ul>
<b>Surface Storage</b>	<ul style="list-style-type: none"> <li>- Improved water supply reliability</li> <li>- Hydro-electric benefits</li> <li>- Flood plain management benefits</li> <li>- Protection against global warming impacts</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Impacts to local habitat around the storage structure</li> <li>- Impacts to water quality from sedimentation and temperature stratification</li> <li>- Potential growth-inducing impacts</li> </ul>
<b>Watershed Planning</b>	<ul style="list-style-type: none"> <li>- Recreation and education opportunities</li> <li>- Improved coordination and collaboration</li> <li>- Protection of sensitive habitats</li> <li>- Reduced pollutant loading</li> <li>- Improved fish passage</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> </ul>
<b>Water and Wastewater Treatment</b>	<ul style="list-style-type: none"> <li>- Protection of human health</li> <li>- Protection of the quality of receiving water bodies</li> <li>- Protection of the health of aquatic and riparian species</li> <li>- Improved supply reliability</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Visual impacts from above-ground facilities</li> <li>- Water quality impacts from process waste streams</li> <li>- Noise, vibration and air quality impacts from operation of power generators</li> </ul>
<b>Water Transfers</b>	<ul style="list-style-type: none"> <li>- Improved water supply reliability</li> <li>- Operational flexibility</li> <li>- Beneficial use of surplus irrigation supplies</li> </ul>	<ul style="list-style-type: none"> <li>- Potential growth-inducing impacts</li> <li>- Third Party Impacts</li> </ul>
<b>Interties</b>	<ul style="list-style-type: none"> <li>- Improved water supply reliability during emergencies (earthquakes, electrical outages, sabotage).</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Impacts to land use and habitat in areas of facility construction</li> </ul>



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Water Management Strategy	Typical Benefits	Typical Impacts
<b>Infrastructure Reliability</b>	<ul style="list-style-type: none"> <li>- Improved water supply reliability</li> <li>- Reduced worker and public safety risk</li> <li>- Improved operation and efficiency</li> <li>- Reduced risk of damage and/or outage during catastrophic events</li> </ul>	<ul style="list-style-type: none"> <li>- Temporary construction impacts</li> <li>- Impacts to land use and habitat in areas of facility construction</li> </ul>
<b>Regional Cooperation</b>	<ul style="list-style-type: none"> <li>- Improved likelihood of realizing benefits of other water management strategies</li> <li>- Lessons learned and efficiencies from integrated planning process</li> </ul>	None
<b>Education and Outreach</b>	<ul style="list-style-type: none"> <li>- Increased volunteerism</li> <li>- Increased stakeholder support</li> </ul>	None
<b>Monitoring and Modeling</b>	<ul style="list-style-type: none"> <li>- Better understanding of watershed and water quality conditions, hydrograph and flow patterns, water supply reliability and wildlife populations and movement.</li> </ul>	None
<b>Groundwater Banking</b>	<ul style="list-style-type: none"> <li>- Improved water supply reliability</li> <li>- Operational flexibility</li> </ul>	- Potential growth-inducing impacts

## I Technical Analysis and Plan Performance

**The Bay Area IRWMP builds upon the data and technical analysis completed as part of other planning efforts, and serves as a planning baseline to measure progress towards achieving the goals and objectives outlined in this Plan.**

Development of the Bay Area IRWMP is founded upon the analysis of data provided in the four Functional Area Documents, which in turn were founded upon the analysis of data and information provided in local planning documents, including but not limited to: General Plans, Urban Water Management Plans, Water, Wastewater, and Recycled Water Master Plans, Flood Protection and Stormwater Plans; and Watershed Management and Restoration Plans.

Based on the technical analysis completed during development of the Bay Area IRWMP, regional goals and objectives have been established and 116 near-term priority projects have been identified. As part of the Plan implementation process, additional analysis is needed to monitor progress towards achieving the stated goals and objectives of this Plan. As such, performance metrics and monitoring strategies have been identified for each of the priority projects, and functional area assessment and Plan-level assessment responsibilities have been identified (see Table ES-8). This table identifies the types of activities that will be undertaken as part of IRWMP implementation. The level of effort for each activity may vary depending on its need and upon the amount of funding and resources available.

**Table ES-8: IRWMP Assessment Responsibilities<sup>a</sup>**

Responsible Party	Assessment Task	Frequency
Project Proponents	<ul style="list-style-type: none"> <li>▪ <i>If funded</i>, project proponents will be required to monitor and report on project status and progress towards achieving stated goals</li> <li>▪ <i>If not funded</i>, project proponents would be encouraged to monitor and report on project progress</li> </ul>	▪ Quarterly Basis
WS-WQ Functional Area TCC	<ul style="list-style-type: none"> <li>▪ Collect project performance information collected by proponents of WS-WQ projects</li> <li>▪ Collect regional water use and population information</li> <li>▪ Assess functional area performance in meeting goals and objectives</li> <li>▪ Adjust functional area priorities as needed</li> </ul>	▪ Annual Basis
WW-RW Functional Area TCC	<ul style="list-style-type: none"> <li>▪ Collect project performance information collected by proponents of WW-RW projects</li> <li>▪ Collect information on recycled water use throughout the region</li> <li>▪ Assess functional area performance in meeting goals and objectives</li> <li>▪ Adjust functional area priorities as needed</li> </ul>	▪ Annual Basis
FP-SM Functional Area TCC	<ul style="list-style-type: none"> <li>▪ Collect project performance information collected by proponents of FP-SM projects</li> <li>▪ Collect information on number of acres within FEMA flood zone and number of floods and reported damages throughout region</li> <li>▪ Assess functional area performance in meeting goals and objectives</li> <li>▪ Adjust functional area priorities as needed</li> </ul>	▪ Annual Basis
HP-WM&R Functional Area TCC	<ul style="list-style-type: none"> <li>▪ Collect and compile project performance information collected by proponents of HP-WM&amp;R projects</li> <li>▪ Assess functional area performance in meeting goals and objectives</li> <li>▪ Adjust functional area priorities as needed</li> </ul>	▪ Annual Basis
IRWMP CC	<ul style="list-style-type: none"> <li>▪ Collect information gathered by Functional Areas</li> <li>▪ Assess IRWMP performance in contributing to regional goals, objectives, and IRWMP vision</li> <li>▪ Adjust IRWMP as needed</li> </ul>	▪ Periodically, pending availability of funding

a. Tasks, frequency, and responsible parties assume adequate funding and resources are available.

It is important to note that this assessment is not intended to supercede project assessment and tracking efforts being conducted at the individual agency level. Several LOMU signatories have already established individual goals for various aspects of water resources management within their organization.

By collecting and assessing this information at a regional scale, the IRWMP seeks to determine the contribution of IRWMP project implementation toward achievement of the overall goals of the IRWMP, as well as the regional vision of working together to enhance sustainable water resources management to support a high quality of life in the Bay Area.

It is envisioned that this IRWMP will establish a planning baseline for assessing the Bay Area's regional water resource management efforts, and that overall performance towards meeting the goals and objectives outlined in this IRWMP will be evaluated against this baseline as future work is completed, pending availability of funding and resources. Quantifiable information on project and plan performance, to the extent it exists, will be used in the evaluation.



## J Data Management

**Data generated through project implementation and data collected as part of region-wide monitoring programs will be compiled to support IRWMP assessment.**

As part of Bay Area IRWMP implementation, data will be collected and compiled at three levels: the project level, the functional area level, and the Plan level. At each of these levels, effective data management and dissemination is critical to successful IRWMP.

- **Project Level Data Management.** At the Project level, project proponents will be responsible for collecting information on project implementation status, as well as evaluating project performance with respect to the specific performance measures established for their project. This information will be disseminated to the Functional Area TCC and other appropriate agencies on a quarterly basis.
- **Functional Area Data Management.** At the Functional Area level, information from the project proponents will be compiled, along with information from other monitoring programs, to assess progress toward achieving functional area objectives. This information will be disseminated to the Bay area IRWMP CC on an annual basis to support the Plan assessment and periodic updates to information in the Plan as needed.
- **Plan Level Data Management.** The Bay Area IRWMP CC will collect the information gathered by the Functional Area TCCs to assess IRWMP performance in contributing to regional goals, objectives, and IRWMP vision. The IRWMP CC will compile and manage this information, and will ultimately disseminate the data to the public.

The data collected will be maintained in a data library that will be publicly accessible from the IRWMP web portal. While every effort will be made to ensure open, public access to data used in the Plan performance assessment, confidentiality agreements may be required to obtain a portion of the data used to support Plan assessment. In these cases, data availability will be managed in a manner consistent with the terms of the individual confidentiality agreements.

The data collected during the implementation of the Bay Area IRWMP can also support several Statewide data needs. For example, DWR may use information developed through the IRWMP information updates to support updates to the California Water Plan, and the San Francisco Bay RWQCB may use the data as part of the new data standardization and data provision requirements that are being considered for 401-certification permits

Data collected as part of IRWMP project implementation will be required to be comparable with applicable statewide data collection programs such as the Surface Water Ambient Monitoring Program (SWAMP) and the Groundwater Ambient Monitoring and Assessment (GAMA) programs. Upon completion of the IRWMP performance assessment, the project-specific data collected, along with its associated quality assurance/quality control information, would be provided to the state in a format which could be easily integrated into statewide data collection and tracking programs. As appropriate, the TCC will also encourage project proponents to contribute data to the following statewide data programs:

- California Environmental Resources Evaluation System (CERES), an information system developed by the California Resources Agency to facilitate access to natural resource data
- California Environmental Data Exchange Network (CEDEN), a website developed by the State for coordinated data sharing





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## K Financing

**Successful implementation of this \$2.1 Billion IRWMP requires ongoing financing to support operations and maintenance of projects upon implementation.**

By contributing to water supply reliability, improved water quality, restoration of ecosystems and other water resources management objectives, implementation of the Bay Area IRWMP will benefit a wide variety of stakeholders within the Bay Area and throughout California

The 116 near-term priority projects identified in this Plan have a total capital cost of approximately \$2.1 Billion. Successful IRWMP implementation will require ongoing financing to support operations and maintenance of projects upon implementation. In addition to local funds, project proponents have identified several outside funding needs from State and Federal agencies to make these projects a reality.

## L Statewide Priorities

**All of the Bay Area IRWMP near-term priorities address one or more of the Statewide Priorities.**

The Proposition 50 Guidelines<sup>4</sup> identify the following Statewide Priorities:

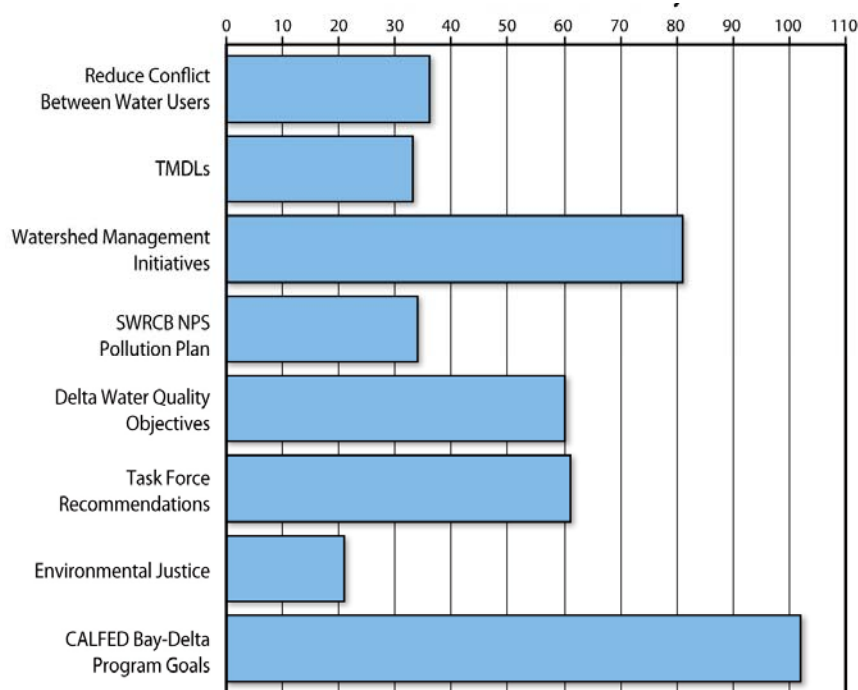
- Reduce conflict between water rights users or resolve water rights disputes, including inter-regional water rights issues
- Implementation of TMDLs that are established or under development
- Implementation of RWQCB Watershed Management Initiatives, chapters and policies
- Implementation of SWRCB's Nonpoint Source (NPS) Pollution Plan
- Assist in meeting Delta Water Quality Objectives
- Implementation of recommendations of the floodplain management task force, desalination task force, recycling task force, or state species recovery plan
- Address environmental justice concerns
- Assist in achieving one or more goals of the CALFED Bay-Delta Program

All of the Bay Area IRWMP near-term priorities address one or more of Statewide priorities – and all of the Statewide Priorities are addressed by the Plan. The breadth and magnitude to which each project meets each Statewide Priority varies based on the nature of the project.

<sup>4</sup> State Water Resources Control Board (SWRCB) and Department of Water Resources (DWR). 2004. Integrated Regional Water Management Grant Program Guidelines—Proposition 50. Chapter 8. November.



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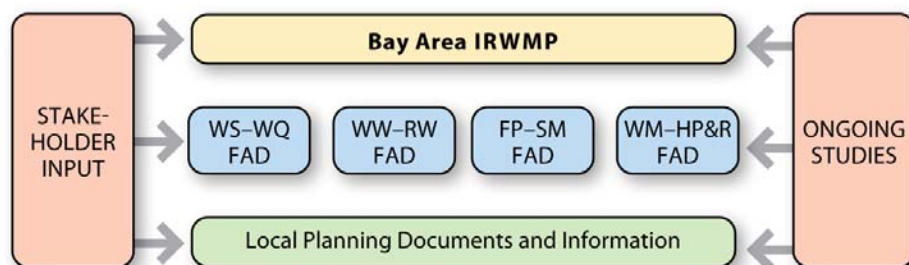


**Figure ES-9: Number of Bay Area IRWMP near-term priority projects addressing Statewide Priorities**

## M Relation to Local Planning

**The Bay Area IRWMP builds upon a wide variety of local plans and studies to establish a baseline for water resources management throughout the region.**

As shown in Figure ES-10, development of the Bay Area IRWMP is founded upon the four Functional Area Documents, which in turn were founded upon several local planning documents and information available throughout the region.



**Figure ES-10: Relationship between IRWMP and Local Planning Documents**

Local Planning documents used in the development of this plan include the following:



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- General Plans
- Specific Plans
- Water Supply Assessments
- Conditional Use Permits
- Municipal Service Reviews
- Urban Water Management Plans
- Water, Wastewater, and Recycled Water Master Plans
- Flood Protection and Stormwater Plans
- Watershed Management and Restoration Plans

During development of this IRWMP, a series of targeted outreach meetings to local governments were conducted to engage local land-use decision makers in the regional planning process. The outreach series consisted of seven local government briefings, which were specifically geared toward municipal planning and public works departments. At each meeting, a presentation was delivered which detailed the IRWMP development process, provided background on Proposition 50, and described the planning grant and implementation grant funding mechanisms. Meeting attendees received “fact sheets” summarizing completed draft IRWMP sections, and encouraging them to get involved. The presentations were followed by question and answer sessions during which attendees were encouraged to ask questions pertaining to IRWMP development, project development and submission, and ways to become more engaged and involved in the process.

## N Stakeholder Involvement

**The stakeholder involvement and outreach activities conducted during the development of the Bay Area IRWMP sought to inform, educate and engage stakeholders throughout the region.**

Development of the Bay Area IRWMP involved a diverse group of water supply, water quality, wastewater, stormwater, flood control, watershed, municipal, environmental, and regulatory groups whose input played a key role in defining sustainable water resources management goals and objectives and the selection of priority projects to help meet those goals and objectives.

The Bay Area IRWMP stakeholders—identified through local planning efforts, development of the FADs and development of the Plan itself—include elected officials, regulatory agencies, water agencies, wastewater agencies, flood control agencies, counties, cities, land use entities, environmental groups, watershed groups, community-based groups and many more.

To ensure that the Bay Area IRWMP reflects the needs and priorities of the diverse array of water management interests within the region, targeted stakeholder outreach activities were conducted throughout the Plan’s development. These outreach activities sought to inform, educate, and engage constituents, stakeholders, and interested parties throughout the nine-county Bay Area.



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### Stakeholder Workshops

Four stakeholder workshops were held to solicit input on the Bay Area IRWMP process:

- **Workshop #1** was held on February 27, 2006 in San Francisco to discuss the proposed approach to development of the Bay Area IRWMP, as well as to define the region and regional planning objectives.
- **Workshop #2** was held on April 24, 2006 in Millbrae to discuss the proposed water management strategies considered in the Bay Area IRWMP, and how various management strategies are being integrated within proposed projects and programs.
- **Workshop #3** was held on June 26, 2006 in Oakland, and was webcast to facilitate the involvement of those who could not attend in person. The third workshop included an Open House presentation of proposed Bay Area IRWMP projects. A proposed prioritization process was demonstrated through analysis of two projects after which meeting participants were invited to review and recommend refinements to the prioritization process.
- **Workshop #4** was held October 23, 2006 in Oakland. The topic of this last workshop was a review and discussion of the entire Public Draft Bay Area IRWMP, including the Plan implementation approach.



An Open House at Workshop #3 allowed participants to review IRWMP projects and assessment results.

### Targeted Local Government Outreach

In addition to the four stakeholder workshops, a series of seven local government outreach briefings were held. These local government briefings were intended to inform local governments about the Bay Area IRWMP, ensure local needs are addressed in the Bay Area IRWMP, and provide an opportunity for local governments to give feedback on the Bay Area IRWMP development.

### Bay Area Water Forum Presentations

Additional updates regarding the progress of the Plan development were provided at the Bay Area Water Forum meetings, which typically occurred every 4th Monday of the month.

### Web Portal—[www.BayAreaIRWMP.net](http://www.BayAreaIRWMP.net)

A comprehensive website established specifically for the Bay Area IRWMP provided another forum for stakeholder identification and participation, as well as draft document review and internal communications for the project team and TCC. Draft documents, public announcements, meeting handouts, and other deliverables were posted to the web site for public review. The web site included an e-mail address ([info@bayairewmp.net](mailto:info@bayairewmp.net)) to facilitate the public's submission of comments, questions, requests for information, etc.

### Regional Planning Committee (RPC) Updates

Bay Area IRWMP information was presented at the April 5, 2006 and October 4, 2006 ABAG RPC meetings. The RPC hears a broad suite of regional issues covering all planning areas, and makes recommendations on programs and activities to be undertaken by the ABAG executive board.



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## General Public Outreach

Various means were employed to extend the scope of outreach to stakeholders, including

- a comprehensive project e-mail database was developed for notification of available documents, workshops, and other announcements. A distribution list of a wide range of media outlets, including print, radio, and television, was maintained as part of this database;
- five non-technical fact sheets were developed to communicate about the IRWMP process and approach. Fact sheets were posted to the IRWMP web site and distributed at public meetings;
- TCC members made presentations and distributed informational materials via established newsletters and web sites;
- interested agencies and organizations were encouraged to sponsor forums to discuss the Bay Area IRWMP, distribute information, provide input, and to help build support for the Plan.

## Other Targeted Outreach

The State Coastal Conservancy also led targeted outreach to encourage participation by resource and regulatory agencies, as well as watershed management interests and environmental and non-governmental organizations to ensure meaningful participation.

During the Plan implementation phase, the IRWMP CC will continue to actively solicit input from interested stakeholders and the public. Resource and regulatory agencies, NGOs and other interested stakeholders will be invited to participate in monthly meetings with the CC.

## O Coordination

**State and Federal agencies played an important role in the development of this Plan, and will continue to play a critical role as the priority projects are implemented.**

Several State and Federal agencies were involved in the development of this Plan, including:

- |   |  |
|---|--|
| ▪ Bay Area Air Quality Management District        | ▪ Caltrans                               |
| ▪ CALFED  | ▪ Corps of Engineers                     |
| ▪ California Dept of Fish and Game                | ▪ California Dept of Water Resources     |
| ▪ California Dept of Forestry and Fire Protection | ▪ Metropolitan Transportation Commission |
| ▪ California Dept of Health Services              | ▪ National Park Service                  |
| ▪ California Farm Bureau                          | ▪ NOAA National Marine Fisheries Service |
| ▪ California Resources Agency                     | ▪ Regional Water Quality Control Board   |
| ▪ California State Lands Commission               | ▪ State Water Resources Control Board    |
| ▪ California State Parks                          | ▪ US Fish and Wildlife Service           |
| ▪ California State Coastal Conservancy            | ▪ US EPA                                 |

State and Federal agencies are intimately involved with implementation of the region's priority projects. Many proposed IRWMP projects require permits from resource and regulatory agencies. Table ES-9 describes the discretionary actions that each resource and regulatory agency might have over various Bay Area IRWMP priority projects. These discretionary actions will directly impact the region's ability to effectively manage local water resources during the Plan implementation phase.



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**Table ES-9: Summary of Local, State and Federal Discretionary Actions**

Agency	Permit/Review Required
Coastal Commission	Coastal Development Permits
SWRCB	Petition for Water Rights Transfer
San Francisco Bay RWQCB	General construction stormwater discharge permit Permit under Section 401 of the Clean Water Act
Bay Conservation and Development Commission (BCDC)	San Francisco Bay permit Suisun Marsh development permit
California Department of Fish and Game	Streambed Alteration Agreement under Fish and Game Code Section 1602
California Department of Health Services	Treatment plant operating permit
Caltrans	Encroachment Permit, if required
Army Corps of Engineers (Corps)	Permit under Section 404 of the Clean Water Act, if jurisdictional waters or wetlands affected Permit under Section 10 of the Rivers and Harbors Act, if jurisdictional waters affected
United States Fish and Wildlife Service (USFWS)	Approval of incidental take permit under Section 10 of the federal Endangered Species Act (ESA), if potential for effect on listed wildlife species Consultation under Section 7 of the federal ESA, if Corps permit required and potential for effect on listed species
National Marine Fisheries Service (NMFS)	Approval of incidental take permit under Section 10 (a)(1)(B) of the ESA, if potential for effect on listed marine life species
State Historic Preservation Office (SHPO)	Possible compliance with Section 106 of the National Historic Preservation Act, if Corps permit required and potential for effect on cultural resources